Improving the San Francisco Wholesale Fruit and Vegetable Market

UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Economics
in cooperation with
UNIVERSITY OF CALIFORNIA
College of Agriculture
Agricultural Experiment Station

IMPROVING THE SAN FRANCISCO
WHOLESALE FRUIT AND VEGETABLE MARKET

by

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and G. L. Mehren

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PREFACE

An extensive survey in 1939 of "What Farmers Think of San Francisco" indicated, among other things, widespread dissatisfaction of California producers with conditions in the city's wholesale fruit and vegetable market district, or as it is commonly known, the "Commission District."

Largely as a result of that survey, the San Francisco Chamber of Commerce organized an active Agricultural Committee, made up of representatives of agricultural business interests in the city and of many farmer groups and organizations in the State. The first major project to be adopted by this committee was a study of the wholesale produce market, to determine what changes or improvements might be needed, and ways and means of their accomplishment. In this program the committee sought and received the cooperation of the wholesale dealers in the market and of other agencies in the State. Interested leaders of local civic clubs, stimulated by studies of similar markets in other cities, had also become convinced that improvements were needed in their own city.

After preliminary consideration, the Chamber of Commerce committee urged the city administration to request a comprehensive survey of the market by the United States Department of Agriculture and the University of California. In this action it was joined by the Wholesale Fruit and Produce Dealers Association of San Francisco, the Central Council of Civic Clubs, the California Farm Bureau Federation, the California Division of the Farmers' Educational and Cooperative Union of America, and the Pacific Rural Press. On January 12, 1942, the Board of Supervisors of the City and County of San Francisco adopted a resolution requesting such a survey. It was made during the summer and fall of 1942, and the findings and recommendations of the investigating agencies are presented herewith.

This report deals only with the wholesale distribution of fresh fruits and vegetables. Improvements and economies are needed in other parts of the marketing system also, but this study has been limited to the movement and handling of these products from first unloading point in the city until they are obtained by the retailers or other buyers in the wholesale market district.

ACKNOWLEDGMENTS

The preparation of this report has been possible only with the help and cooperation of many organizations and individuals. The authors wish to express their appreciation and acknowledgments to the following:

The wholesale fruit and vegetable dealers of San Francisco, all of whom cooperated in furnishing detailed information regarding the market district and its operations;

Officials and directors of the Wholesale Fruit and Produce Dealers Association of San Francisco, who gave freely of their time to assist with the study;

Retailers in San Francisco and its suburbs, and out-of-town buyers, who were visited at their places of business or interviewed at the market;

Officials of the Retail Fruit Dealers Association of San Francisco, Inc.;

Officials and buyers of chain-store organizations in the San Francisco Bay area;

Procurement officers of the military forces;

Brokers, local representatives of shipping organizations, exporters and importers;

Representatives of all types of transportation agencies, both local and long distance, who gave freely of factual information;

Engineers, industrial agents, and other representatives of railroad companies and construction firms who supplied information concerning constuction methods, requirements, and costs;

Officials and representatives of many departments and offices of the City and County of San Francisco, who gave active and cordial cooperation on all phases of the study;

Officials and other representatives of the San Francisco Chamber of Commerce, who made available the complete facilities of their organization and offices;

Officials of the State of California who furnished helpful assistance and advice;

Representatives of the Federal-State Market News Service, who made available the complete records of volume and origin of supplies and much related data and information;

Producers and shippers, bankers, California farm organizations, the agricultural press, and representatives of other agricultural interests, who were consulted on many occasions;

Leaders of civic clubs in San Francisco, representing consumer interests;

Several individuals who had an interest in previous efforts to bring about improvement in the wholesale fruit and vegetable market; and

Staff members of the Bureau of Agricultural Economics and the University of California, who made many helpful criticisms and suggestions during the preparation of this report.

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The attempt to bring all the vehicles into the market area within a few hours results in a traffic problem that cannot be solved in the street and parking space that is available. Only a small part of the buyers' trucks can be parked at the stores at one time, and they can get there only through heavy traffic congestion. The others must be parked some distance away, and their loads moved to and from the stores by porters using two-wheeled hand trucks. This is costly in time and effort. Also the extra handling and jolting of tender fruits and vegetables lead to more rapid deterioration and increased spoilage. Highly perishable products, that were brought to the proper stage of maturity in fields and orchards, packed carefully, and moved swiftly to the market, are subjected to much rough handling and exposure as they are moved through the city streets on these small-wheeled hand trucks. Incoming supplies are commonly stacked in the street when unloaded from the motortrucks, and later they are again piled in the street around the vehicles of buyers. Sanitary conditions are poor. Floors of the stores are generally of wood and do not exclude the rats which infest the district. Few of the basements are watertight, and in many of them stagnant water stands continually under the floors where the produce is piled.

In spite of the inadequacy of facilities, the dealers are compelled to pay very high rents for the privilege of remaining and doing business in the congested, uneconomic Washington Street market district. The individual wholesale dealer cannot leave the district and seek another location with better accommodations and more equitable rents, for by himself he cannot attract the buyers who make a hurried trip to the market place early each morning to select their needs from the great number and variety of products offered. Only by concerted action to move the entire wholesale market to another location can the dealers be freed from the necessity of paying whatever rents the owners demand. The total rental paid by the fruit and vegetable firms for the use of facilities in the market district amounted in 1941 to more than $200,000. A complete new market, fully adequate for the needs of San Francisco, might be operated and paid for at an annual cost of little more than half this amount.

4. A new market is needed.

San Francisco needs a new wholesale fruit and vegetable market because present marketing facilities are neither suitable nor adequate. Of necessity they involve operations and handling methods that are excessively costly, and that result in waste of perishable food products because of increased deterioration and spoilage. Handling conditions are dangerously unsanitary.

5. A market suitable and adequate for San Francisco should be planned in accordance with the essentials of a good wholesale fruit and vegetable market.

These essentials are:

- Suitable design
- Proper location
- Reasonable cost
- Completeness
- Effective price making
- Sound management

6. Suitable design.

The main job to be done is to receive and distribute a great quantity of perishable foods in a very short time. The best place in which to do this is on large platforms at motortruck height, covered for protection from sun and storm, surrounded by wide streets, and with railroad tracks adjoining for direct unloading from cars. These platforms would be divided crosswise into store space for the wholesale dealers, each store extending across the entire platform. Only the center would be partitioned between stores, however, leaving along both front and back a wide continuous covered walk or arcade the entire length of the platform. The walk at the front of the stores would be the "sidewalk" of the market, where merchandise would be displayed, sold, and delivered. The back walk would be used also for delivery to or from outgoing or incoming carriers, and for interchange between stores. The railroad tracks which parallel the platform at the back would be paved level with the tops of the rails so motortrucks could load or unload there when the railroad cars are removed.

Two such platforms, each 630 feet long, one 100 feet in total width and the other 80 feet, should provide sufficient space for San Francisco's needs. These should be parallel, with a street between the two of not less than 110 feet in width. Streets at the back and ends of each platform should have at least 60 feet of working width. Parking space for vehicles not engaged in loading or unloading is highly essential if the street and store-front space is to be kept open for trucks that are working. Parking areas conveniently located in all parts of the market should be provided for 300 vehicles of buyers, in addition to automobiles used for personal transportation. The entire market area should be enclosed with a substantial fence and gates for enforcement of regulations regarding hours of entry, sale, and delivery.

Offices for store operators can be provided most advantageously on mezzanines in the store units. A portion of one store structure should be built two stories in height to provide on the second floor such space as may be needed for offices of produce firms that do not operate stores, and for other enterprises connected with the market. Individual refrigerated rooms can be installed by dealers who have need of such space. The need for basements is not great, and if the market is built where waterproofing against seepage from the Bay would be necessary, the cost would probably be greater than their use would justify.

7. Market site.

Three general areas are considered for a possible market location:
(1) The Washington Street market district
(2) The locality south of the China Basin Channel
(3) A large section in the vicinity of Islais Creek

Fundamental requirements for the location of a wholesale fruit and vegetable market are:
(1) Accessibility to incoming and outgoing transportation
(2) Convenience to buyers

(3) A site that is comparatively level
(4) Sufficient area at reasonable cost

An area sufficient for the facilities and lay-out needed in San Francisco, with allowance for future expansion, would be about 15 acres (653,000 square feet). The need for direct rail connections limits the consideration of prospective sites to the eastern part of San Francisco. Convenience to buyers calls for a fairly central location, and rules out places that might otherwise be suitable at the southern edge of the city or farther south on the Peninsula.

The three areas that are considered have common advantages:
(1) Satisfactory rail and highway connections
(2) Satisfactory location with respect to boat piers
(3) Conveniently situated for buyers

They differ greatly in probable cost of a 15-acre site:

Islais Creek or Channel District	$ 500,000
The Market District	$ 2,100,000

8. <u>Cost of construction.</u>

The cost of construction of the buildings and other facilities needed for a complete new market in San Francisco has been estimated at approximately $650,000, on the basis of pre-war construction charges. The total cost of a market in one of the undeveloped industrial tracts in the Islais Creek or Channel district would then be about $1,150,000, for land and buildings. In the Market District the same type and size of market would cost about $2,750,000. Amortization of investment together with cost of operation and maintenance could be met by annual payments of $120,000 in one of the low-cost locations, but would require nearly $260,000 per year on a site in the Market District.

9. <u>Savings of a new market.</u>

Compared with operations and charges in the present marketing facilities, a new market in a low-cost location could effect the following savings each year in the cost of distributing San Francisco's supplies of fresh fruits and vegetables:

Savings in:	
Rentals of wholesale stores	$ 100,000
Hauling from railroad cars	83,000
Handling in the market	210,000
Time of buyers and truck drivers	120,000
Loss from deterioration and spoilage	210,000
	$ 723,000

These savings would be widely disseminated. A large part would ultimately go to consumers in the metropolitan area and to producers. Some would be shared by wholesalers and retailers and by transportation and other agencies. Efficient distribution is important to producers, to consumers, and to the distributive industry which is engaged in moving the products from producers to consumers. The products handled

through the market are protective foods, necessary for the health and welfare of the community. Not only are these foods essential, but studies of their nutritional values indicate that it is important that they get to consumers in the best possible condition.

Some of the savings can be calculated rather specifically; others are somewhat intangible and can be represented only by general estimates. They indicate, however, that with an initial expenditure that should not exceed one and one quarter million dollars, a good wholesale market could save nearly three quarters of a million dollars each year in the cost of food distribution.

10. Importance of management.

A unified wholesale produce market is a large and important enterprise; management is as important to its success as with any other business of comparable magnitude. Facilities and market operations must be supervised, matters of policy determined, regulations enforced, and good will maintained among many groups. The management should be familiar with marketing problems, and capable of working out plans to meet constantly changing conditions.

11. Who should build the market?

By whom should a market be built? The improvement of the present marketing situation in San Francisco is a matter of concern to many groups -- to growers, to wholesalers and retailers, and to consumers over a wide territory, as well as to transportation agencies, property owners, financial institutions, industries allied with the distribution of fruits and vegetables, and several agencies of government. The market performs a public service, and certain safequards should be placed on its control and operations to prevent exploitation of the industry.

The market could be built by private enterprise subjected to certain regulations, or by a public corporation set up by local governmental agencies for the specific purpose of establishing and operating the market. If it is established by a private corporation, there should be definite provision to insure that the owners of the facilities will not exact exorbitant rentals, and that they will not impose regulations undesirable to the industry or to the community.

Unless private capital will take the initiative in providing a market and at the same time subject itself to proper regulation, probably the most practicable and feasible approach to the problem in San Francisco would be the establishment of a public corporation or market authority to provide and administer the market facilities. Such an authority could be set up by local and State agencies of government for the specific purpose of establishing and operating the market. It should be managed by a nonpolitical board representing various interests in the produce industry and other groups and agencies that are concerned with the market in San Francisco. This board should be empowered to determine a comprehensive program for market improvement, and to put the program into operation.

12. Advantages and disadvantages.

Any realistic consideration of market improvement in San Francisco must recognize that although large groups in the region would gain therefrom, some small groups would lose advantages which they now hold. The plan presented, if adopted, will reduce the cost of distributing these food items, but such reduction can be brought about only by cutting out certain operations, charges, and costs. The elimination of these charges would reduce or eliminate the incomes of certain groups of people who are receiving revenue from the present inefficient set-up Such persons will object to the conclusions of this report and will perhaps exert every effort to prevent their being carried out. Opposition is to be expected to any program of real, fundamental betterment. Minor measures may be proposed as an alternative course of action, which might serve as a temporary palliative but would not get at the basic shortcomings of the market district. Anything less than new and complete market facilities, built at the lowest possible cost, would fail to bring to this California community full savings in the wholesale distribution of its fresh fruits and vegetables.

13. Possibility of immediate market improvement.

A permanent building program probably should not be attempted until after the war, but this does not necessarily mean that nothing can be done until then. A start toward the final goal might be made with temporary platforms similar to the fruit and vegetable packing sheds and shipping platforms. These could be built with less labor and fewer building materials than the permanent structures, and would still provide facilities far more suitable and efficient than the present cramped quarters. Suitable locations are readily available. As soon as some agency is prepared to develop a new market, a site might be obtained and temporary platforms of the loading-station type erected to serve until the permanent building program could be launched. The temporary platform-stores should be of the same dimensions as planned for the final structures, so they could later be replaced without changing the arrangement.

A well-arranged market, even with only temporary platform space, would result in large savings in the handling of the city's food supplies as compared with operations in the present Washington Street market district. These would include savings in manpower so vitally needed in the war, savings in the use of transportation equipment, and savings in the actual food supplies themselves. Manpower would be saved not only in the handling of foodstuffs in the market, but also in the hours now wasted by buyers, motortruck drivers, and others because of unavoidable delays in the movement and delivery of merchandise. Hundreds of hours of idle time of vital motortruck equipment, now lost because of delays and traffic congestion in the market area, could be saved in a new market. Food is becoming scarce, and fresh fruits and vegetables will be needed in ever greater quantities in San Francisco and its environs: after these products have been grown and harvested, prepared for market and transported to the city, they should be utilized as completely as possible and not wasted through deterioration and spoilage due to the present inadequate marketing facilities.

Costs and availability of labor and building materials are subject to continual change, and decision regarding the development of new marketing facilities during wartime would have to be based on conditions that prevail when some organization is ready to proceed. Its possibility should be given careful consideration, however, by the agencies that are concerned with the costs and the handling conditions under which perishable foods are distributed in San Francisco.

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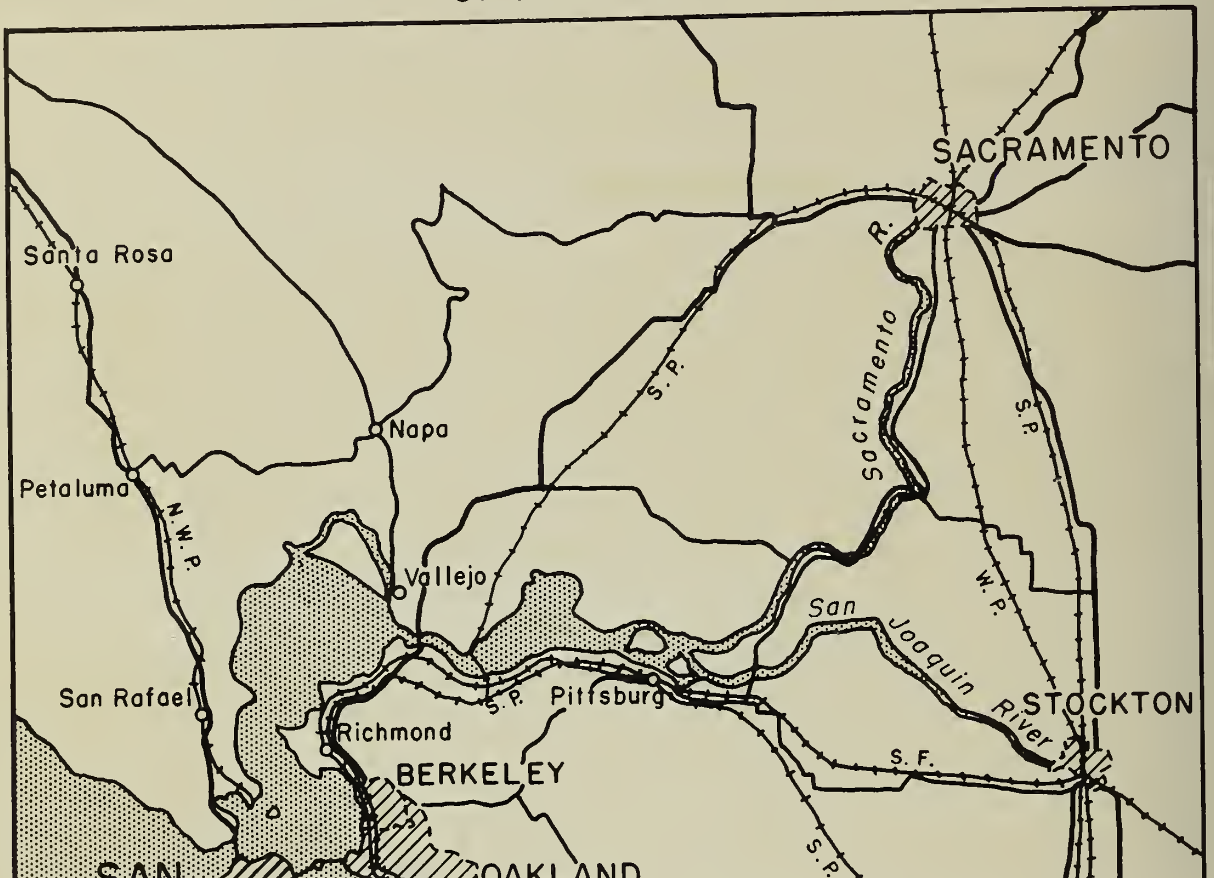
SAN FRANCISCO
AND NEARBY URBAN CENTERS
CALIFORNIA



S.P.—Southern Pacific Co.
S.F.—Atchison, Topeka & Santa Fe R.R.Co.
W.P.—Western Pacific R.R. Co.
N.W.P.—Northwestern Pacific Railroad Co.

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FIGURE 1

IMPROVING THE SAN FRANCISCO WHOLESALE FRUIT AND VEGETABLE MARKET

by

W. T. Calhoun 1/, H. E. Erdman 2/, and G. L. Mehren 3/

THE PRESENT MARKET

San Francisco is the focal point for the agricultural, commercial, and industrial activities of northern and central California. Located on San Francisco Bay, (fig. 1) it is the hub of the rich agricultural valleys in which is grown a large part of the nation's supply of fruits and vegetables. Chief of these valleys are the San Joaquin and Sacramento which together constitute the great Central Valley of the State, an area 425 miles in length and 45 miles average width. Tributary to the Bay from the north are the Sonoma and Napa valleys, and to the south the Santa Clara, one of the most intensive fruit-producing districts in the world. Just beyond the Santa Clara is the fertile Salinas Valley. In the equable climates of this region, crops are brought to harvest every month of the year.

About 25,000 carloads of fresh fruits and vegetables are received in San Francisco each year to be consumed by the people in the city, distributed through its market channels to surrounding territory, or loaded aboard the ships that ply the trade routes from the Golden Gate. The receipts average more than 80 carloads each business day, a total of 1,000 tons, or 2,000,000 pounds. However, the volume is not spread evenly over the year but differs considerably between seasons and by day of the week. During the summer and fall, as much as 1,500 tons are received in a single day.

These are perishable food products, moved by speedy transportation from field and orchard. If they are to reach the city's homes and dining rooms while still fresh and in sound condition, they must be distributed quickly to the retail outlets with a minimum of handling and delay. Most of the products that arrive during the afternoon and night should be in the retailer's stores early the next forenoon. Where and how is this big job done?

Description of the Washington Street Market District

About 85 percent of the total supply, or 21,000 carloads per year, are received and handled through the Washington Street wholesale market district, which in San Francisco and its agricultural regions has generally been known as the "Commission District." Of the 15 percent that moves through other channels, a considerable part goes directly to chain-store warehouses and thence to retail outlets, and some is unloaded for export, either at shipside or into cold storage.

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The wholesale market district is located at the edge of the city's business and financial section. It is just off the Embarcadero, the main thoroughfare of the waterfront (fig. 2). There is no organized market, nor is there even a clearly defined market area. The fruit and vegetable dealers occupy old store buildings scattered through ten city blocks. These structures, which are the typical street-level type of mercantile store buildings, were built before special thought was being given to speed and labor saving in the handling of bulky and perishable products. They have not been altered to meet the needs of this highly specialized distributive industry. No special facilities have been provided for the transportation and handling of 1,500 tons of food in a single day.

The stores are located on narrow streets. Washington Street, the center and "main stem" of the market, measures only 30 feet from curb to curb, and the three cross streets -- Front, Davis, and Drumm -- are 40 to 45 feet in width (fig. 3). There are practically no off-street parking areas, and the several hundred vehicles which are at the market each morning fill the surrounding streets and choke the movement of traffic. There are no railroad sidings for direct unloading from cars into stores. Rail receipts must therefore be hauled from the railroad yards. There are no platforms at the stores for loading and unloading motortrucks. Incoming supplies are unloaded onto the sidewalks or into the streets in front of the dealers' stores, and then moved to display or storage spaces by hand trucks.

Buyers begin to arrive at the market early in the morning and park their trucks as near the stores as possible. They examine the day's offerings, get prices, and make their purchases. After their buying is completed, some attempt to drive to the stores to pick up their merchandise. However, with the streets lined on both sides with parked vehicles, and with only one lane in which traffic can move, this is a slow and tedious process. Consequently, most purchases are delivered from the stores to the buyers' trucks by porters using two-wheeled hand trucks. Some 300 porters are employed by the dealers in the market district.

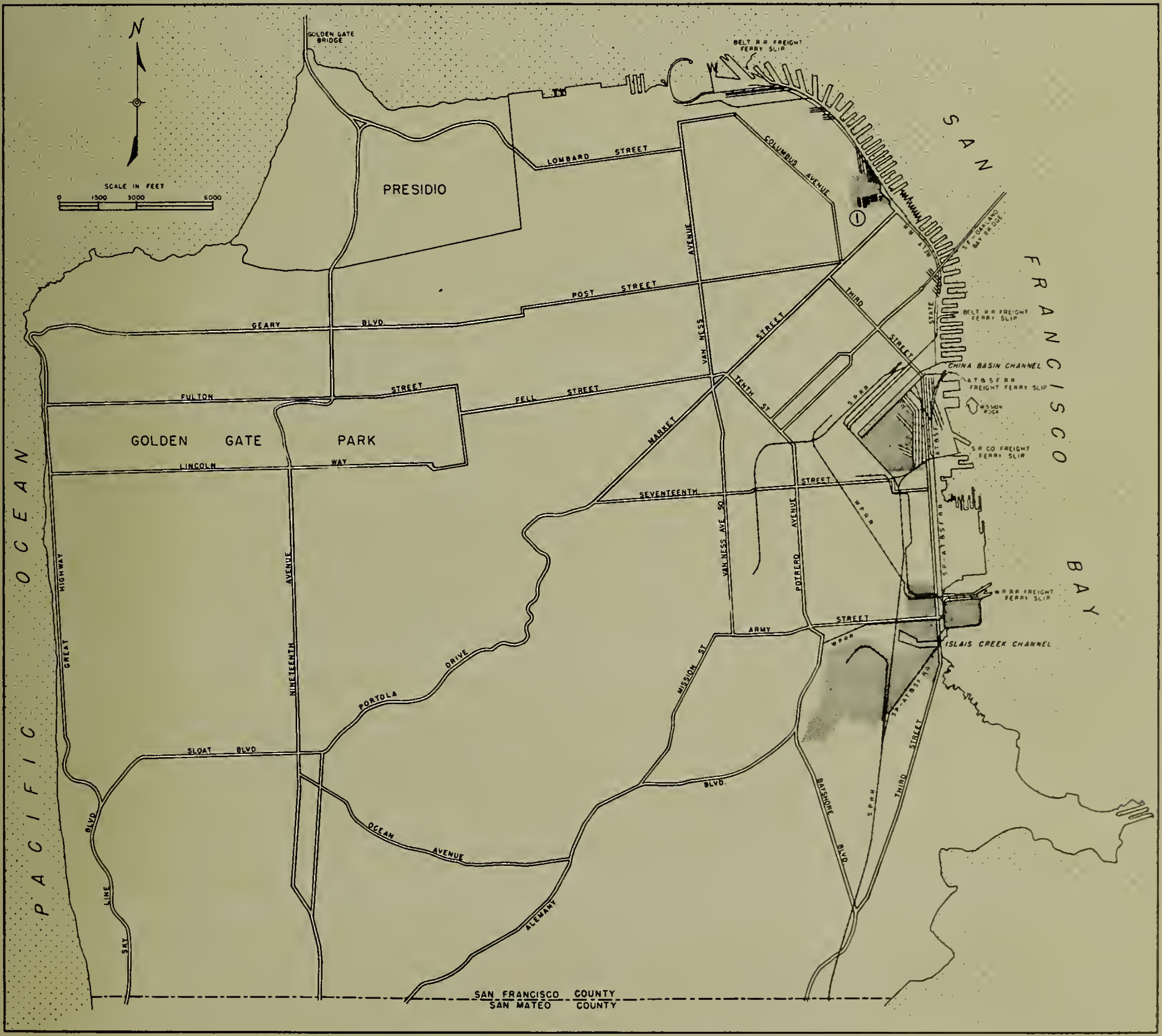
Scores of loaded hand trucks are pushed along the walks and through the streets of the market district, moving the perishable foodstuffs from the stores to the waiting motortrucks located a block, two blocks, perhaps three blocks, distant. Most of the buyers have no specific place at which to get supplies, but "shop around" and buy each day where merchandise and prices appear to be most satisfactory. A buyer may park near one end of the market and yet make most of his purchases at the other end, adding greatly to the average distance of hand deliveries.

The buyer may have bought as many as 20 different kinds of fruits and vegetables at six or eight different stores in the market. He cannot finish loading until all these different lots are delivered to him by the porters. Retailers complain vigorously of the waste of their time in waiting to get the produce after it has been bought. The longer the delay in assembling loads, the longer the buyer's truck must occupy its parking place, the greater is the traffic congestion, and the longer other buyers are delayed in getting their loads and returning to their places of business. Delay in getting back to the retail store may mean loss of business and need for additional help.

Many of the buildings are in poor condition and have had a minimum of repairs or renovation since their construction soon after the fire of 1906.

SOME OF THE POSSIBLE LOCATIONS FOR A WHOLESALE FRUIT AND VEGETABLE MARKET IN SAN FRANCISCO

SHOWING THE WASHINGTON STREET MARKET DISTRICT, THE PRINCIPAL STREETS, HIGHWAYS, AND RAILROAD LINES, THE PIERS, AND THE BRIDGES.



① WASHINGTON STREET MARKET DISTRICT

▨ POSSIBLE LOCATIONS FOR A NEW WHOLESALE FRUIT AND VEGETABLE MARKET

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FIGURE 2

WASHINGTON STREET FRUIT AND VEGETABLE MARKET DISTRICT
SAN FRANCISCO, CALIFORNIA, SEPTEMBER 1942

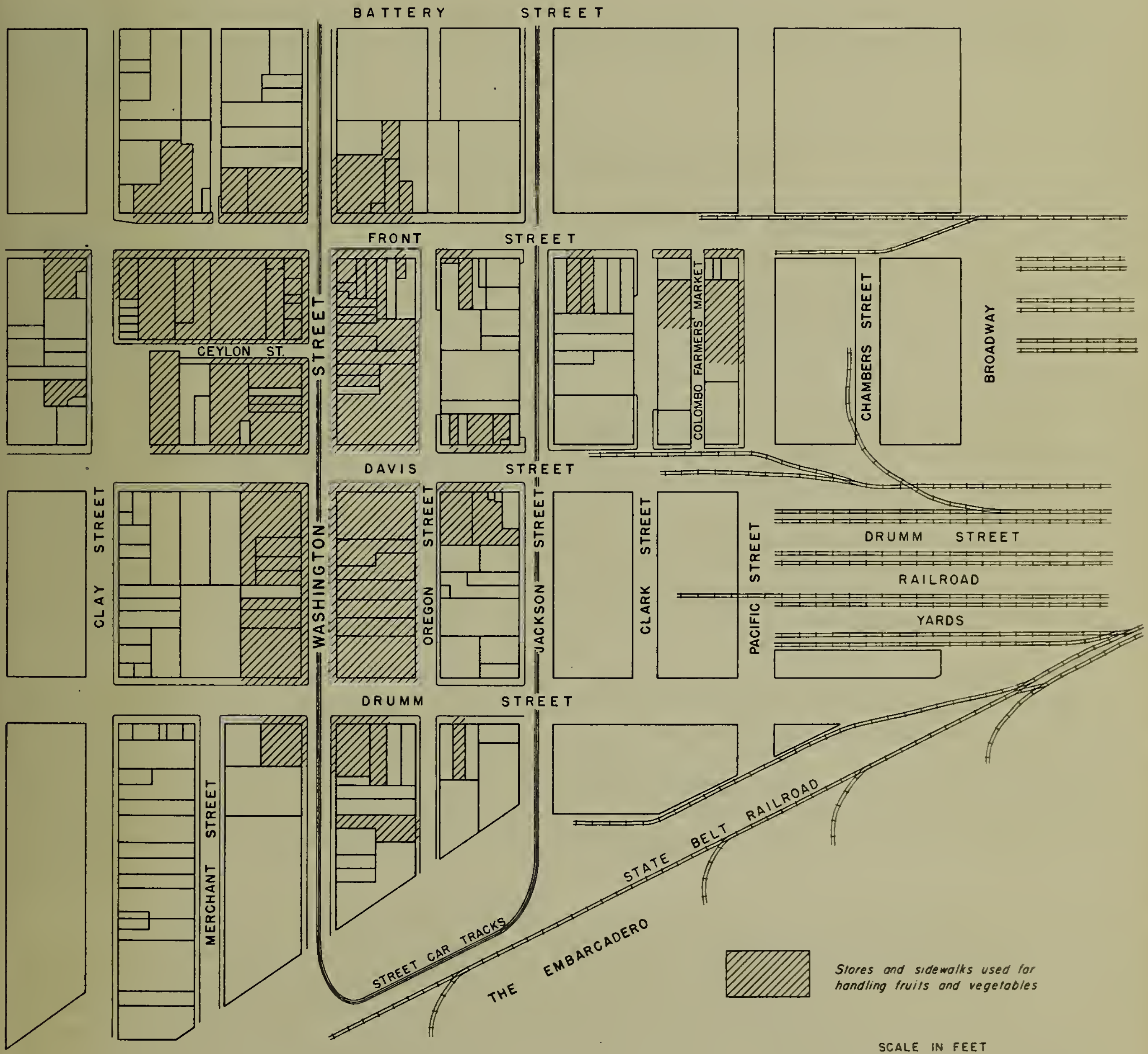

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FIGURE 3

Floors are generally of wood and do not exclude the rats which infest the district. In many of the basements stagnant water stands continually. Space in which to handle the receipts is so inconvenient that great quantities of these food products are stacked in the street when unloaded from incoming motortrucks. Later they are again piled in the street around the vehicles of the buyers. Debris and filth accumulate in the streets and gutters, and make conditions very unsanitary for the handling of perishable food products, many of which are eaten uncooked.

In short, neither the market district nor the stores are suited to the requirements of the produce industry. In consequence, slow and costly methods of handling are necessary.

THE WHOLESALE FRUIT AND VEGETABLE STORES

Number, Size, and Physical Characteristics

Seventy-two firms or individuals were operating 75 fruit and vegetable stores or basements in the market district when this survey was made during the summer of 1942. This number does not include growers from the Colma district who sell at the Colombo Farmers' Market, nor the few growers who sell their products at other locations in the district. Neither does it include the operators of a few stores or facilities in other parts of the city used for citrus packing, banana ripening, or other specialized wholesale fruit and vegetable business. Brokers, carlot shippers, importers, and exporters who occupy offices in the market district but do not operate stores, were not counted. Those included were the firms and individuals located in the market district that were actively engaged in the physical handling of fresh fruits and vegetables and in the sale of such products to buyers who purchased for resale. In this report, such firms and individuals are classed as "dealers." The location and arrangement of fruit and vegetable stores in the market district are shown in figure 3.

Some of the dealers occupy store space in more than one building. If these buildings are adjoining, the space so occupied has been classified as one store. In three instances, stores used by a firm are not adjoining, and each of these has been classified as a separate store. Five of the 72 dealers are banana concerns which rent and operate only the basements under the product stores, with no ground-floor store space. In the market district there are 70 stores at ground-floor level that are used in the handling of fruits and vegetables by 67 dealers.

The stores differ widely in size, and in shape and arrangement. A few consist of more than 10,000 square feet of ground-floor space, whereas some are smaller than 1,000 square feet (table 1). Their combined ground-floor area totals nearly 200,000 square feet. In addition, about 40,000 square feet of sidewalk in front of the stores is used much more intensively for handling, display, and sale of produce than the space in the stores themselves. The total of ground floors and the sidewalk space in front of stores is nearly 240,000 square feet. On the basis of 21,000 carloads per year of fruits and vegetables moved through the market, this represents approximately 11,350 square feet of floor space for every 1,000 carloads handled. As discussed in a later section of this report, this is more than twice as much floor area as would be needed if the stores were designed and arranged so they could be used efficiently.

Table 1.-- Size of wholesale fruit and vegetable stores in the Washington Street market district

Area per store in square feet	Number of stores	Cumulated number of stores
0- 1,000	12	12
1,001- 2,000	12	24
2,001- 3,000	10	34
3,001- 4,000	15	49
4,001- 5,000	3	52
5,001- 6,000	2	54
6,001- 7,000	1	55
7,001- 8,000	2	57
8,001- 9,000	1	58
9,001-10,000	0	58
10,001-15,000	4	62
15,001-20,000	5	67
20,001-25,000	1	68
25,001-30,000	2	70

The street and sidewalk frontage of the stores varies widely, according to size and shape of the store and its location in the block. Some of the large corner stores have nearly 200 feet of such frontage, and others have as little as 12 feet. More than half of the stores have 25 feet or less of street frontage, and nearly three-fourths have 30 feet or less.

Fifty-four of the stores are in single-story buildings, and most of the others are in two-story structures. Only six dealers maintain second-floor offices, and much of this space is used by the shipping or export departments of such firms. Seven of the second floors are occupied entirely or in part by other businesses. The others are used for occasional storage of crates, or are entirely unused. Only about one-fourth of the second-floor space above fruit and vegetable stores is used in connection with the produce business, and much of this is for low-value storage. In the few buildings of more than two stories, none of the space above the second floor is used by fruit and vegetable firms.

Offices are located mostly on mezzanines, 47 stores having them so situated. Nearly all dealers have small cashier's cages on the ground floor, and for many of the small dealers this is the only office space. Cold-storage rooms are installed in 13 stores. Only 6 stores are equipped with elevators, and 1 of these is not used.

Only 18 of the stores have rear doors, and most of these are seldom used because of the narrow street on which they open. Much of the space in the back part of the stores is used but little, because supplies can be brought in and taken out only through the front entrances. Forty-two of the stores have some sort of basement, but not more than half of these are used at all. Ten are equipped with banana-ripening rooms, and as many others are used for occasional storage of merchandise or of empty crates. The market is located on filled-in land, in an area that was once beneath the waters of San Francisco Bay. Very few of the basements are watertight, and in those that are used, the seepage water must be pumped out. Where pumps are not operated, the stagnant water stands permanently a few feet beneath the floors on which fruits and vegetables are piled.

Rentals

At the time this survey was made (June, 1942) the rentals for the 70 fruit and vegetable store properties in the market district amounted to $203,000 per year, according to information obtained by personal interview with the proprietor, manager, or other employee of each fruit and vegetable firm in the market district. This figure includes the total rent paid by tenants and the rental values of the few properties that are occupied by owners. The average per store is about $2,900 per year, but there are extremely wide variations in the rentals according to size and location of store. Rent per square foot of ground-floor store space averages approximately $1 per year, but this also varies widely in different stores.

In addition, a considerable number of firms in the fruit and vegetable business, or associated with the industry, occupy offices in or near the market district. These include brokers, shippers and representatives of shipping organizations, transportation companies, and the like. The number of these directly connected with the local market is somewhat indefinite, as many are located in San Francisco primarily because of other business and financial connections. The firms of this type that have major interests in the local wholesale market pay rentals for office space of about $8,000 per year. The total rental paid

by the fruit and vegetable industry for the use of facilities of the Washington Street market district is about $211,000 per year.

Why has the market remained in these old, cramped, and costly quarters? The following statement by the Federal Trade Commission in a report written 23 years ago regarding general conditions in produce markets applies forcefully to San Francisco today:

> Excessive rentals for stores.** In spite of old and inadequate buildings, the dealers are compelled to pay very high rents for the privilege of remaining and doing business in these congested, uneconomic market districts. The individual wholesale dealer dares not by himself leave the district, where all retailers have been accustomed to come for their supplies, and seek another location with better accommodations and more equitable rents. It would indeed be business suicide in most cases to attempt it. Only by concerted action to move the entire wholesale produce market to another location can the dealers be freed from the necessity of paying whatever rents the owners demand. So long as such rents are advanced with a fair degree of equality as between the various dealers in the same market, and all are laboring under the same general expenses and lack of facilities, the incentive is not strong enough to bring the dealers together for concerted action, since they feel that to a large extent such additional costs, as well as losses and wastes which are proportionally equal, are passed on to the retailers, and by them to the consumers, in the cost of the goods. They know that all other dealers are under similar handicaps. Hence there are found dealers in these markets paying rent twice or three times the amount they paid a few years ago for the same building without any additional facilities and in bad repair. The owner has done nothing to improve the property, and the only added value to the premises is the increased value given to the site by the increase of the produce business and the development of other business areas around it, due to the growth in population.
>
> Nevertheless, in several of the large market cities there have been attempts on the part of the dealers to get together and establish their markets at better locations, since they realized the great losses of the present system and the possibilities of more moderate prices to the consumers as well as increased profits for themselves under better conditions. The owners of real estate in the market districts oppose all such projects. 4/

Assessed Valuations

The assessed valuations of the buildings in which are located the fruit and vegetable stores in the market district, and the land on which they stand,

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4/ United States Federal Trade Commission. Report on the wholesale marketing of food. 1919. p. 147.

totaled almost $650,000 in 1941. 5/ The assessed value of the land was $442,000 and of the buildings $207,000. On a basis of square foot of ground area, the valuations average about $2.25 for land and $1.05 for buildings, a total of $3.30. The total rental paid per year by the fruit and vegetable firms occupying these properties amounts to 31 percent of their entire assessed valuation.

Rentals and Valuations on Washington Street

Most of the wholesale fruit and vegetable business is done by the dealers located along Washington Street. With a few outstanding exceptions, the stores not fronting on Washington Street are occupied by the smaller dealers, or by those doing some type of specialized business. Thus several firms located off Washington Street (but in the market district) specialize in supplying hotels and restaurants, which is done mostly by telephone order and direct delivery. Other firms deal principally in potatoes, onions, citrus, or other products for which they need considerable storage space. Most of the selling to the buyers who come to the market district is done along Washington Street. To a major extent, this narrow street is the market. This situation is sharply reflected in the rents.

Of the 70 stores in the market district, 40 adjoin Washington Street and 30 do not. For convenience, these are referred to, respectively, as "Washington Street stores" and "stores off Washington Street." A comparison of the combined area, rental, and assessed valuation of these properties is presented in table 2.

The Washington Street stores comprise 62 percent of the total ground-floor area of all the fruit and vegetable stores in the market district, but account for 80 percent of the rent. The rental for store space adjoining Washington Street averages $1.31 per square foot per year, and the assessed valuation of these properties averages $3.39 per square foot. The rentals paid for the Washington Street stores in one year amount to 39 percent of the total assessed value of the properties in which they are located.

Ownership

The properties in which the 70 fruit and vegetable stores in the market are located are owned by 31 groups or individuals. 6/ Among these, ownership is

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5/ Assessed valuations of properties were obtained from the records in the office of the Assessor of the City and County of San Francisco.

6/ In some cases a single natural person controlled one or several properties. In other cases, legal persons held several lots of property. In those instances in which the natural persons who dominated one or more land-owning companies were the same persons holding other market land in their own names, such natural and legal persons were considered to be a single land-holding group. If the dominant persons in different land-owning companies were the same persons (or were intimately associated in their business activities), such companies were also consolidated into a single group. The data on which this section is based were obtained from the public records in the office of the Assessor of the City and County of San Francisco.

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Table 2.-- Area, assessed valuation, and rental of wholesale fruit and vegetable stores on Washington Street, off Washington Street, and combined totals for the market district [1]

Item	Stores on Washington Street	Stores off Washington Street	All stores in the market district
Number of ground-floor stores	40	30	70
Total ground floor area	124,345 sq. ft.	74,353 sq. ft.	198,698 sq. ft.
Total sidewalk area	27,216 sq. ft.	12,367 sq. ft.	39,583 sq. ft.
Ground floors and sidewalk	151,561 sq. ft.	86,720 sq. ft.	238,281 sq. ft.
Total assessed valuation of land	$298,590	$143,894	$442,484
Total assessed valuation of buildings	121,471	85,767	207,238
Total assessed valuation	$420,061	$229,661	$649,722
Total annual rent	$162,720	$ 39,876	$202,596
Annual rent per square foot of store	$1.31	$0.54	$1.02
Annual rent per square foot of store and sidewalk	$1.07	$0.46	$0.85
Annual rent as percentage of total assessed valuation	39 percent	17 percent	31 percent

[1] Assessed valuations of properties were obtained from the records in the office of the Assessor of the City and County of San Francisco.

Information on rentals was obtained by personal interview with the proprietor, manager, or other employee of each fruit and vegetable firm in the market district.

highly concentrated in a few groups, as is shown in table 3. The 6 largest owners control 45 percent of the store area, and collect 60 percent of the total rentals.

Ownership of the fruit and vegetable properties along Washington Street is still more concentrated. These are all owned by 14 groups or individuals. The 3 largest own 43 percent of the area and collect 44 percent of the rentals of the Washington Street stores. Income from the use of land and buildings in the produce district is channeled into the hands of a very few persons.

Four of the major property-owning groups are engaged in the fruit and vegetable business in the market, either directly or through dominant principals. Together the four groups own 31 percent of the produce-store area in the market district and collect 35 percent of the rents. However, all of their properties adjoin Washington Street, giving them even more of a dominating position in the activities of the market. These four produce-dealer groups own 49 percent of the floor area, and collect 45 percent of the rents, of the fruit and vegetable stores on Washington Street.

ORIGIN AND TRANSPORTATION OF SUPPLIES

Records of the total volume of fruits and vegetables received in San Francisco are available since 1931 only. Rail and boat unloads were reported for earlier years by the Market News Service of the United States Department of Agriculture, but a complete record of receipts by motortruck was not obtained before that year.

During the 11 years for which the information is available (1931-1941) the total quantity received each year has varied relatively little above or below 25,000 carloads annually. About 20,000 carloads, or 80 percent of the annual supply, has come from California producing districts. Oregon and Washington together furnished about 8 percent. Imports of bananas and pineapple from Central America, Mexico, and Hawaii comprised another 8 percent. 7/ Thus receipts from the three Pacific Coast States and from the Tropics accounted for about 96 percent of all the fruits and vegetables used in San Francisco and its trade territory (fig. 4).

Although the total quantity has shown little variation from year to year, the proportion arriving by each of the various methods of transportation has changed tremendously, as shown in table 4 and figure 5. Receipts by motortruck increased from 11,000 carloads in 1931 to more than 17,000 carloads in 1941, or from 44 to 69 percent of the yearly total. Meantime rail unloads declined from 9,500 to around 5,000 carloads, and boat receipts dropped from nearly 5,000 to less than 2,000 carloads. In percentage of the annual totals, rail supplies decreased from 37 to 23 percent, and boat from 19 to 8 percent.

7/ This does not include imports of bananas and pineapple moving in transit directly to other parts of the United States. Only the quantities used locally or distributed throughout San Francisco are included.

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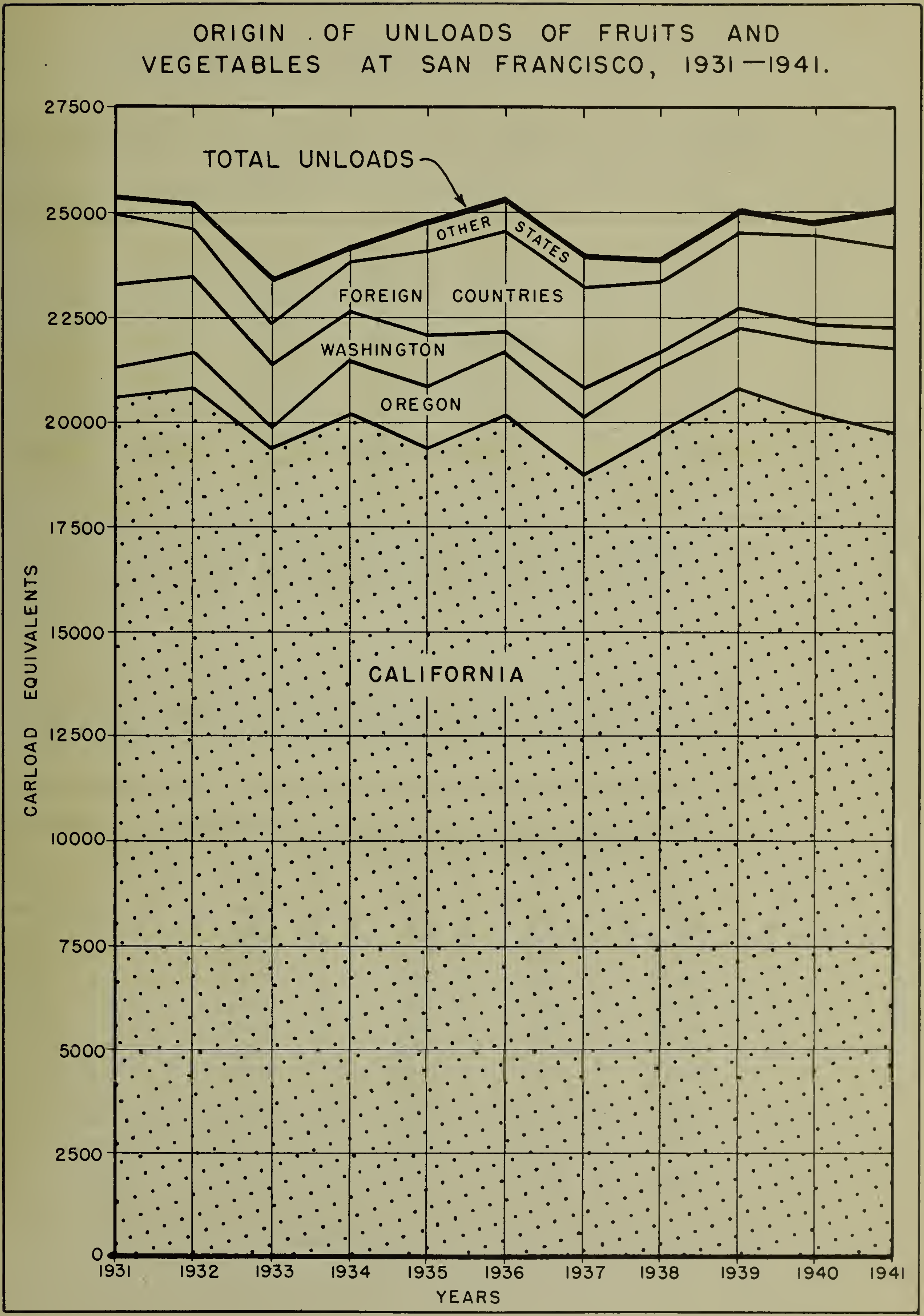
Table 3.-- Percentage of total fruit and vegetable store area in the market district owned by groups of owners, and percentage of total store rent received by each group 1/

Number of owners 1/		Percentage of total area owned		Percentage of total rent received	
By group	Cumulated	By group	Cumulated	By group	Cumulated
number		percent		percent	
3	3	26	26	36	36
3	6	19	45	24	60
3	9	13	58	12	72
3	12	7	65	9	81
3	15	11	76	6	87
3	18	8	84	4	91
3	21	5	89	3	94
3	24	5	94	3	97
3	27	3	97	2	99
4	31	3	100	1	100

1/ Owning groups were arranged in order of the percentage of total rent accruing to each of them. These percentages, as well as those relevant to the area controlled, were then cumulated. In order to assure the anonymity of owners, the percentages are here cumulated in intervals of three rather than for each owner separately. Thus, the three owners securing the highest percentages of total rents together received some 36 percent of the total rental income. The six largest secured 60 percent, etc.



ORIGIN OF UNLOADS OF FRUITS AND VEGETABLES AT SAN FRANCISCO, 1931—1941.

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FIGURE 4.--See Table 8, Appendix

Table 4.-- Yearly unloads of fruits and vegetables at San Francisco by type of carrier, eleven-year period, 1931-41

Year	Motortruck		Rail		Boat		Total	
	Carload equiv- alents	Percent	Carload equiv- alents	Percent	Carload equiv- alents	Percent	Carload equiv- alents	Percent
1931	11,016	43.5	9,468	37.4	4,832	19.1	25,316	100.0
1932	12,376	49.2	8,414	33.5	4,357	17.3	25,147	100.0
1933	12,725	54.7	6,395	27.5	4,142	17.8	23,262	100.0
1934	14,203	59.0	6,360	26.4	3,524	14.6	24,087	100.0
1935	14,043	57.0	6,788	27.5	3,808	15.5	24,639	100.0
1936	14,198	56.3	7,924	31.4	3,105	12.3	25,227	100.0
1937	14,074	59.1	6,924	29.0	2,832	11.9	23,830	100.0
1938	15,285	64.5	6,128	25.8	2,308	9.7	23,721	100.0
1939	17,578	70.4	5,293	21.2	2,075	8.4	24,946	100.0
1940	17,562	70.6	4,943	19.9	2,366	9.5	24,872	100.0
1941	17,256	69.2	5,718	22.9	1,970	7.9	24,944	100.0

United States Department of Agriculture and California Department of Agriculture, cooperating. San Francisco annual unload summaries.

Table 5.-- Average monthly unloads of fruits and vegetables at San Francisco by type of carrier, five-year period, 1937-41

Month	Motortruck	Rail	Boat	Total
	Average carload equivalents			
January	886	578	104	1,568
February	825	508	168	1,501
March	1,049	508	230	1,787
April	1,212	437	199	1,848
May	1,405	429	143	1,977
June	1,699	507	199	2,405
July	1,898	341	180	2,419
August	1,974	457	229	2,660
September	1,647	412	257	2,316
October	1,486	730	291	2,507
November	1,193	479	169	1,841
December	1,077	453	141	1,671
12 months	16,351	5,839	2,310	24,500

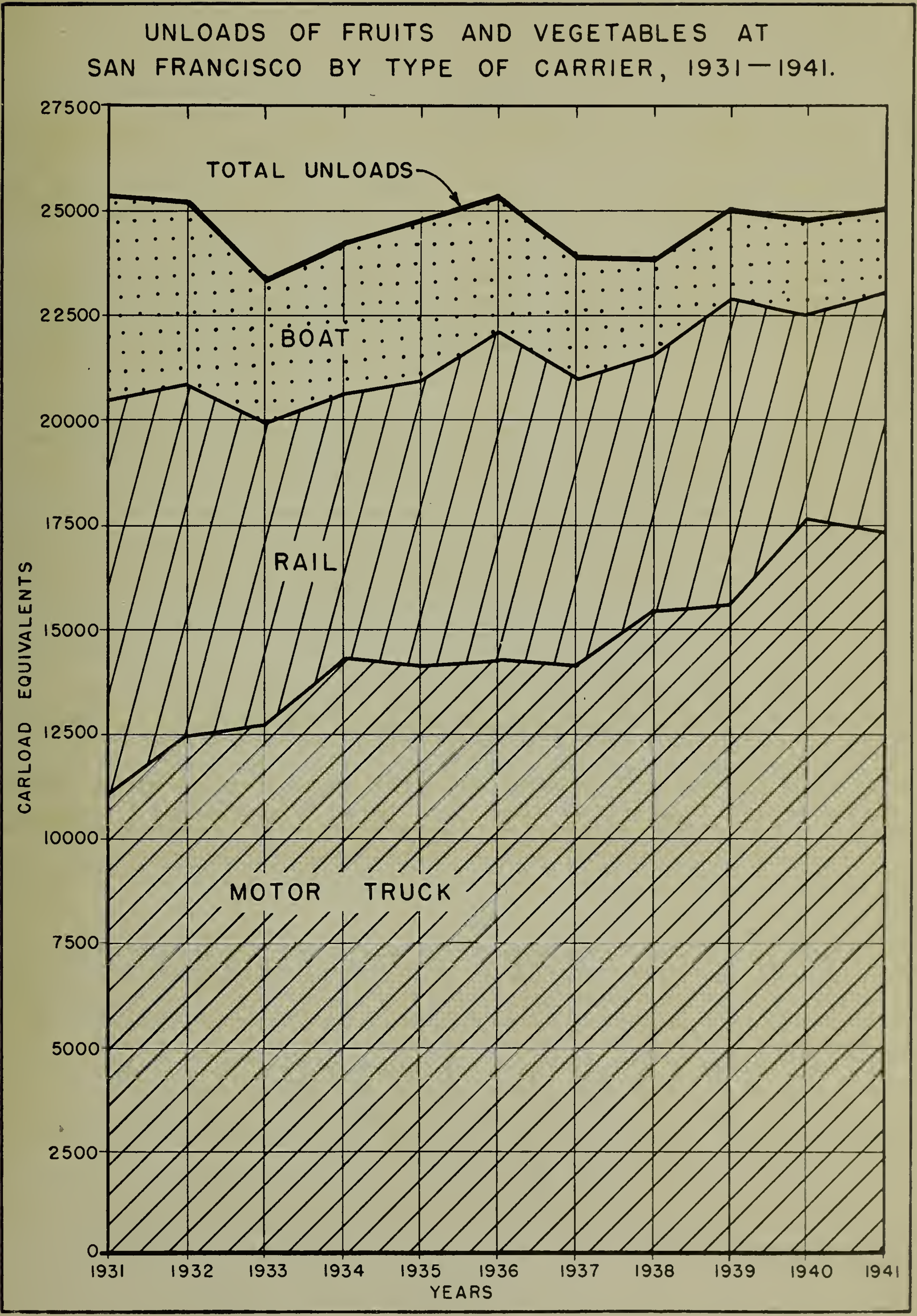

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FIGURE 5. See Table 4.

Average monthly unloads by each method of transportation during the last 5 years are listed in table 5. Receipts are heaviest during the summer and fall and decrease sharply during the winter. Lightest supplies are in February, with an average for that month of 1,500 carloads, or only 6 percent of the annual total. The high point is reached during August, with an average in recent years of nearly 2,700 carloads, or nearly twice as much as in February.

Besides these seasonal differences, there are major variations by days in the volume of supplies. Thus Monday's receipts are normally the heaviest of the week and Saturday's the lightest. The annual volume of some 21,000 carloads that moves through the market is distributed very unevenly over the working days of the year; therefore the wholesale marketing facilities are called upon to accommodate enormous peak loads.

The shift from rail and boat to motortruck transportation has been almost entirely on California products, as is shown in figures 6,7, and 8. Since 1931 the railroads have lost about 5,000 carloads of the annual movement of fruits and vegetables from California shipping points to San Francisco, their shipments having declined from approximately 7,500 to 2,500 carloads per year. During the same period, the boat movement from Sacramento and San Joaquin River points to San Francisco dropped from nearly 2,000 to only 300 carloads per year. Meanwhile yearly motortruck receipts increased by a corresponding volume, for throughout the years when these shifts in transportation were taking place, the total annual receipts of California products held quite consistently around 20,000 carloads.

Another major shift was from boat movement of Washington potatoes to rail shipment of Oregon potatoes. Large-scale production of potatoes developed in the Klamath Falls section of southern Oregon coincident with the opening of direct rail routes from there to California. As a result, the San Francisco market for Russet Burbank potatoes, which had previously been supplied from Washington on a combination rail-water haul, was taken over by southern Oregon. As indicated in figure 9, potatoes, onions, and apples have made up most of the rail receipts during the more recent years. Before the outbreak of the war, boat receipts were limited primarily to imports of bananas, as shown in figure 10.

What further shifts in methods of transportation are likely to occur? As a result of shortage of trucks and tires in the near future, the railroads may regain some of the traffic they have lost to the motor carriers. But assuming that transportation conditions will again become similar to those preceding the war, further shifts from rails to trucks may occur. For several years just previous to 1938, the motortrucks had been hauling most of the San Francisco receipts from central and northern California, but comparatively little from other districts. Since 1938, however, their deliveries from the more distant southern California districts have increased from about 2,000 to 4,000 carloads annually. Products from the Salt River Valley of southern Arizona and from the Klamath Falls district of Oregon also showed up in the motortruck receipts. Although the total volume from these more distant sections is still of minor importance, it indicates that here, as in other parts of the United States, motortrucks have increased materially their length of haul and have begun to compete with the railroads in the more distant producing areas.

One of the handicaps to the railroads in meeting motortruck competition in hauling fruits and vegetables to San Francisco is that motortrucks deliver

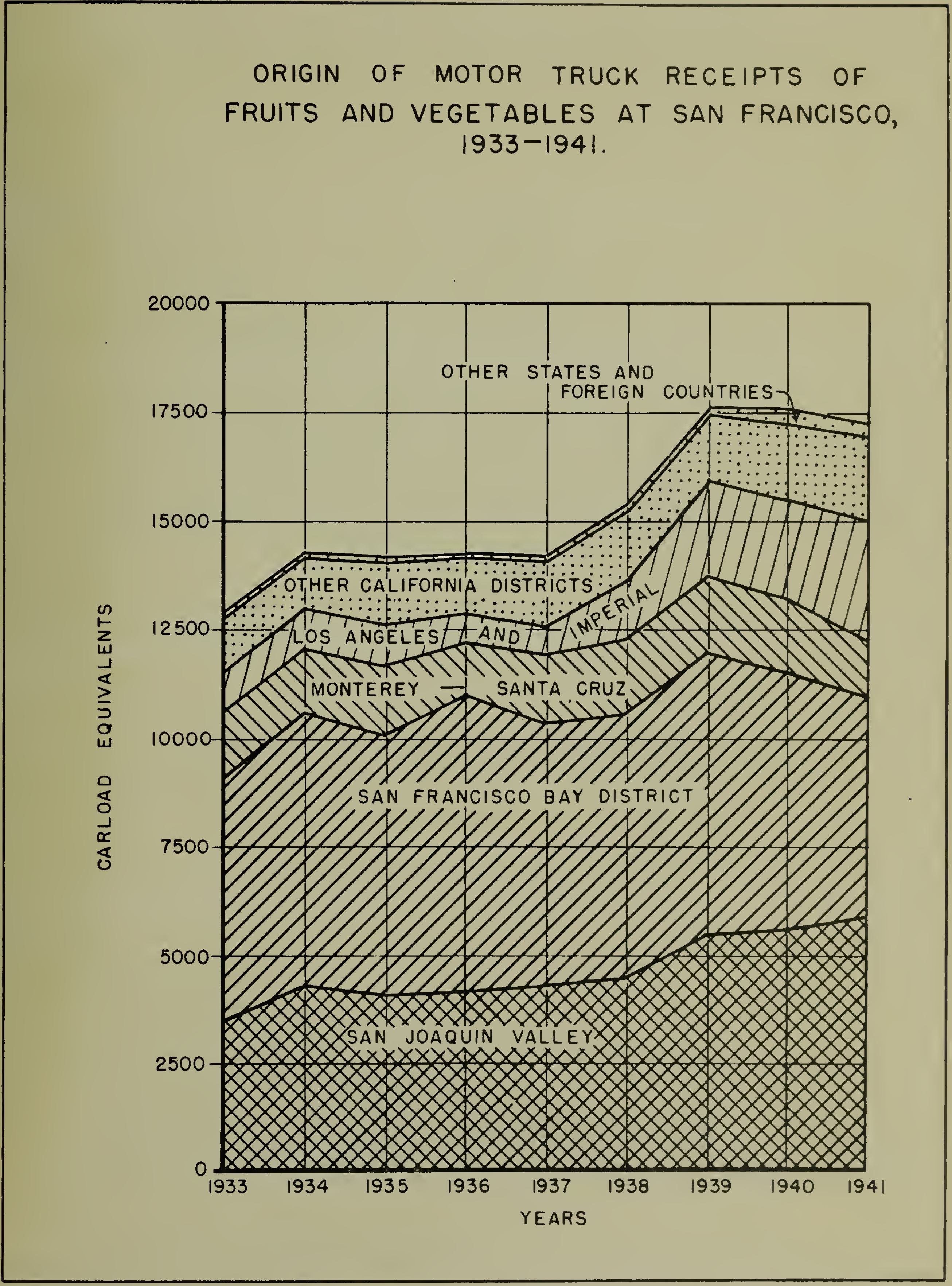

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FIGURE 6.--See Table 9, Appendix

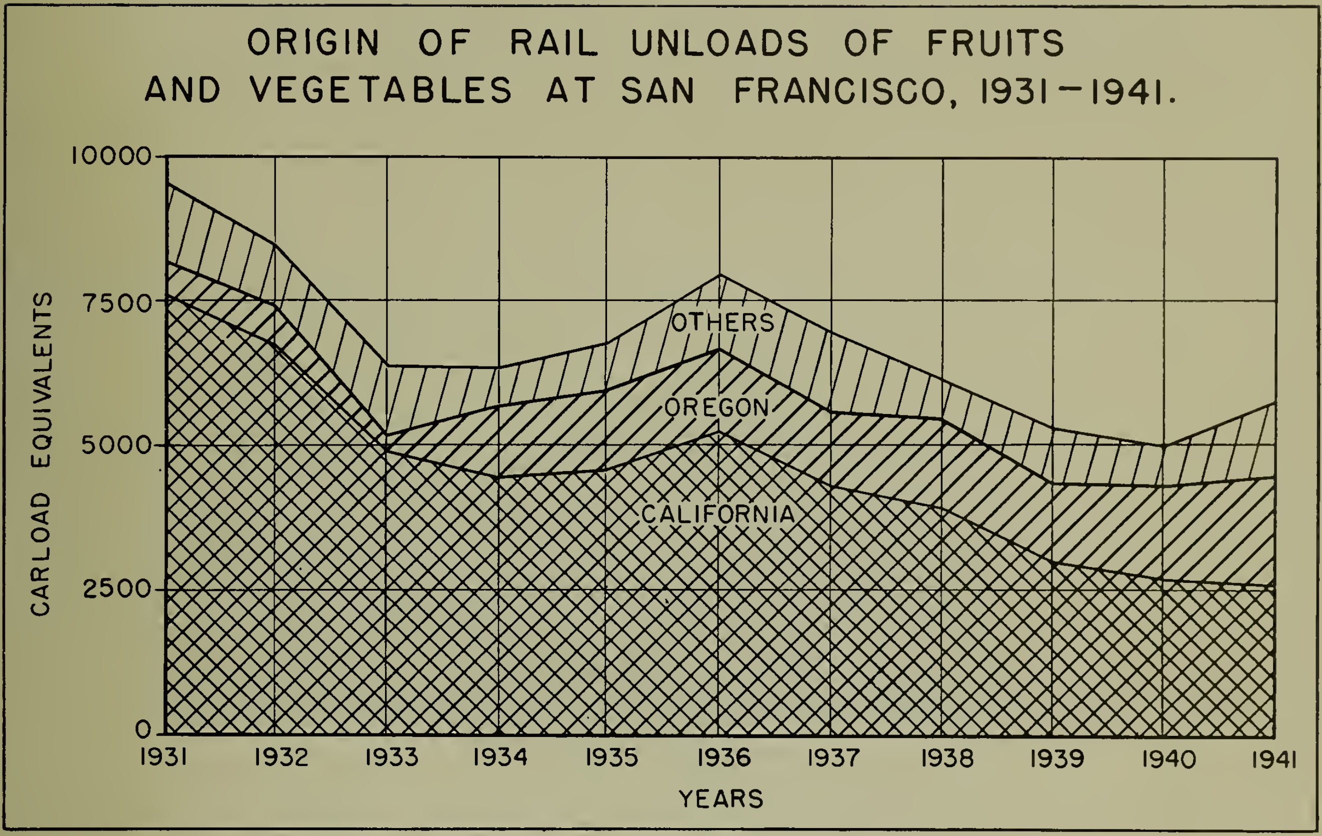

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FIGURE 7.--See Table 10, Appendix

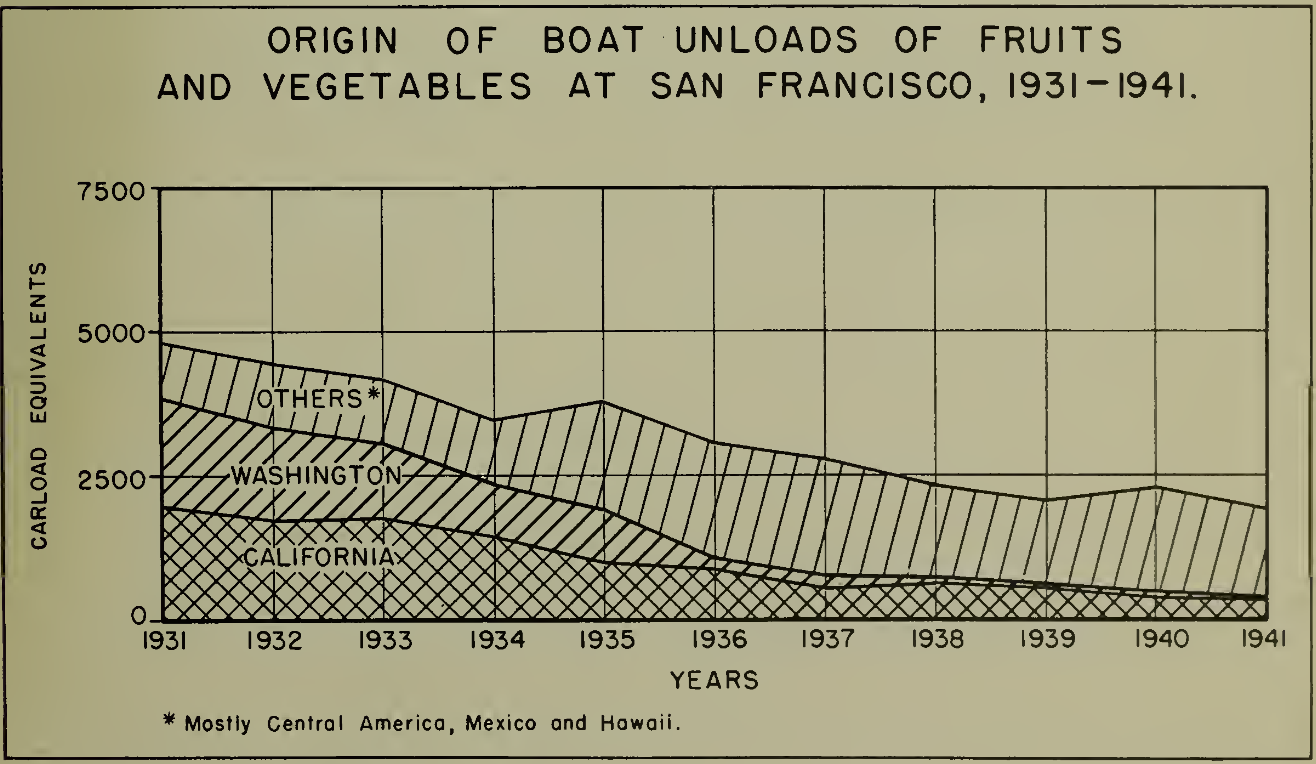

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FIGURE 8.--See Table 11, Appendix

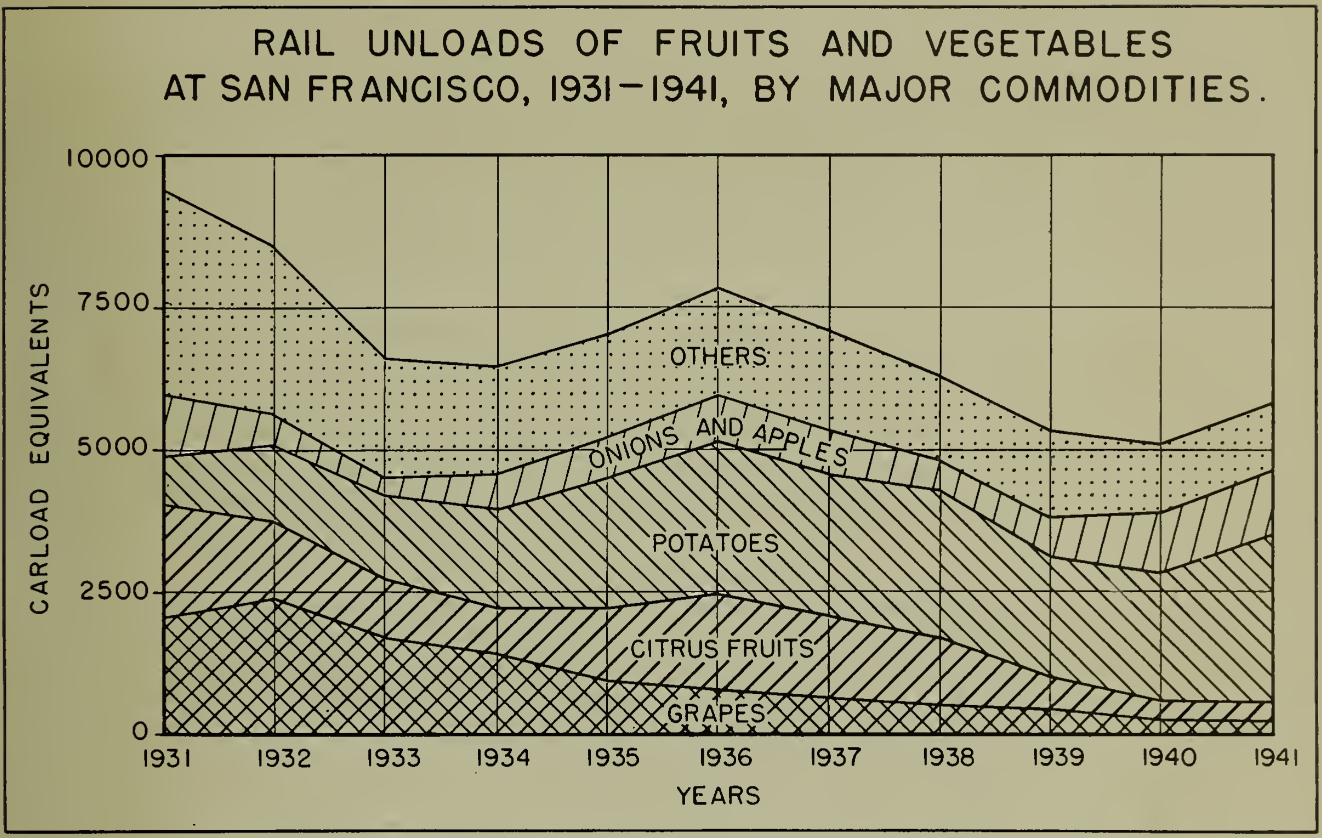

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FIGURE 9.--See Table 12, Appendix

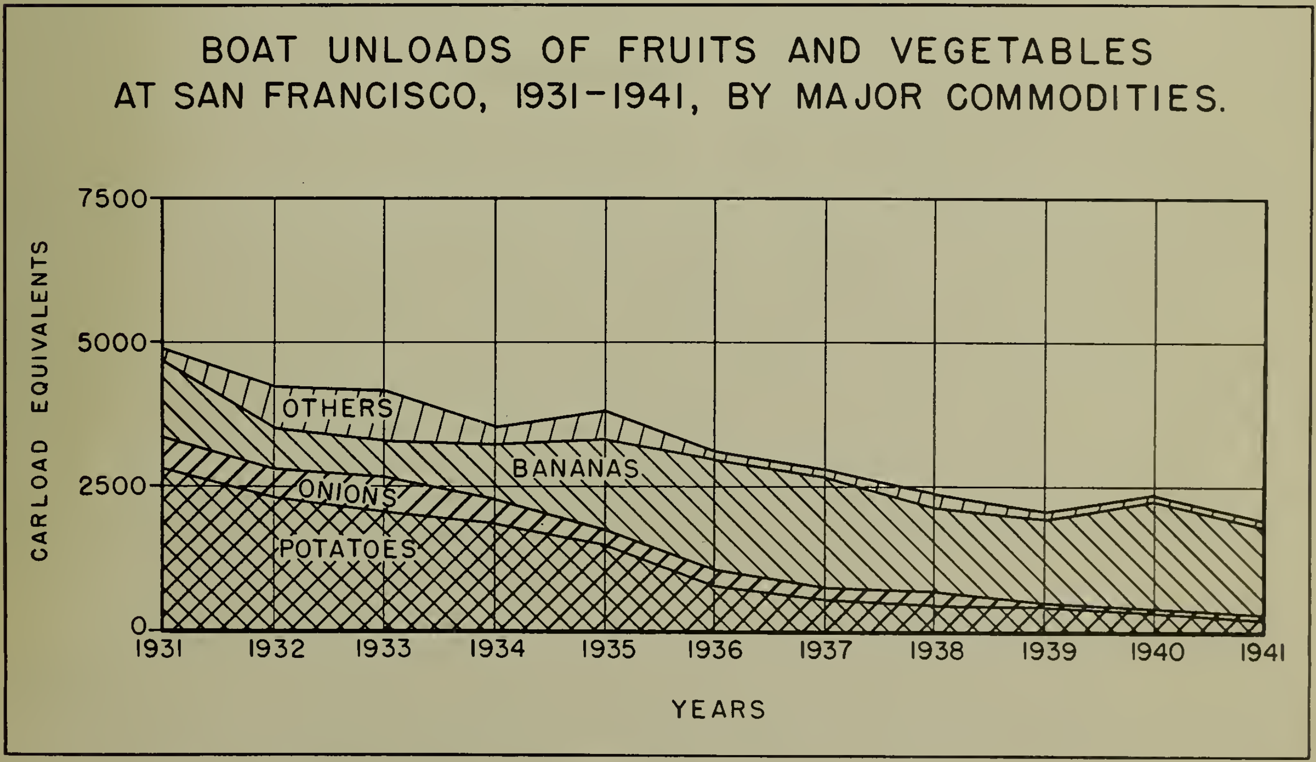

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FIGURE 10.--See Table 12, Appendix

directly to the stores in the market district, but the railroads cannot do so. The cost of hauling rail receipts from railhead to the market ranges from $20 to $40 per carload, averaging about $26. Thus approximately $2 per ton (at the average weight per carload) or 10 cents per hundredweight are added to the freight rate which a consignee must pay to have a railroad shipment delivered. Where railroad sidings are available, as at chain-store warehouses, this extra hauling cost is not incurred.

Arrivals by boat have almost completely passed out of the picture, except for ocean imports. Shortage of trucks and tires, and heavy demands upon rail transport during the war, may cause a temporary return to the river boats of potatoes and onions from the Sacramento-San Joaquin Delta. During the last two decades, however, the railroads and motortrucks took most of this business away from the waterways, and there seems little likelihood that the boats will permanently regain such traffic.

What of air transportation and its effect on wholesale fruit and vegetable markets? It is highly probably that in the future some perishable products will move to distant markets by air transport. The air lines are already making such plans. However, San Francisco is so near the areas producing most fruits and vegetables that it will probably continue to draw the greater part of its supplies by land transportation. The local airports are not likely to offer suitable or convenient locations for wholesale produce markets, and the products that arrive by air will probably be distributed through the same market as the truck and rail receipts. San Francisco's produce market of the future should be readily accessible to surface transportation from the airports, but so far as can yet be foreseen, it will hardly be expected to provide landing fields for the cargo carriers of the air.

DISTRIBUTION

Most of the fruits and vegetables received in San Francisco are consumed in the city and its immediate environs. Smaller quantities are sold for ships' supplies or are exported. Comparatively little is redistributed to inland points, even across the Bay. This is largely due to the nearness of producing districts to the other cities and towns. Wholesale produce markets have been established in Oakland, San Jose, Stockton, and Sacramento, and with the dominance of motortruck transportation, most supplies come directly to these markets from California's farms and orchards. There is some interchange of goods between the different markets, particularly those in the Bay region, to equalize day-to-day variations in the volume of receipts. On a few products, at certain seasons of the year, there is a fairly widespread distribution from San Francisco. For the most part, however, San Francisco's trade territory for fruits and vegetables is the city itself and the adjoining counties west of the Bay, on the Peninsula, and in the North Bay coastal districts.

According to the 1940 census, the City and County of San Francisco had a population of 634,536. San Mateo County, which comprises the remainder of the Peninsula, and the two North Bay coastal counties of Marin and Sonoma brought to nearly 900,000 the 1940 population of the area that is served entirely or principally from the San Francisco market. Since 1940 there has been a sharp increase, and it is probable that the market is now supplying about a million people in the Bay area, in addition to many of the armed forces.

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The sale of [illegible] [illegible] of the [illegible] from [illegible] to 10 per [illegible], [illegible] since [illegible]. [illegible] (at the average [illegible] per barrel) or [illegible] [illegible] to have a [illegible] daily [illegible]. [illegible] shillings [illegible], this extra [illegible]

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Accordingly, in the [illegible], the Mill and Society of [illegible] Trade had a [illegible], which [illegible] Louisiana, [illegible] and [illegible] [illegible] in the [illegible] of the [illegible].

California furnishes nearly one-fourth of all the commercial fruit and truck crops for fresh market use in the United States. Some 265,000 carloads of these products are normally shipped to the other 47 States and, in peacetime, to foreign countries. Many of the shipping firms and organizations that handle this tremendous volume of business maintain offices in San Francisco, but shipments to other parts of the country move directly from the loading stations in the interior valleys without passing through San Francisco.

Export markets were of considerable importance before the war, and in this field there may be great expansion in the days that lie ahead. In the prewar period regular shipments were made to Hawaii and Alaska, to the Orient and the islands of the South Seas, to other ports of the Americas, and to Europe. The extent to which the distribution of fruits and vegetables through San Francisco may be expanded in the future will probably depend in large part on how much moves through the Golden Gate.

RAILROAD FACILITIES

San Francisco is served by three trunk-line railroads and their subsidiary lines. These are the Southern Pacific Company, the Atchison, Topeka & Santa Fe Railway Company, and the Western Pacific Railroad Company. The Southern Pacific has direct rail connections to the city from the south, but all other lines terminate east or north of San Francisco Bay, and their incoming cars of merchandise are moved across the Bay on car ferries. The cars are removed from the car ferries at special float bridges or "freight slips" and are then handled within the various yards and switching areas of the city.

Each railroad has trackage, railroad yards, and sidings throughout much of the industrial section of the city. The Southern Pacific has yards and team tracks on both sides of the China Basin channel, and train yards south of the city limits along the bay shore; it has a freight slip at the end of 16th Street, but this has not been used in recent years. The Santa Fe has a freight slip and yards immediately south of the China Basin. The Western Pacific freight slip and yards are at the end of 25th Street. These rail locations are shown in figure 2.

Most of the trackage south of the China Basin is operated separately by the owning lines, but in two instances, the Illinois Street and Jackson Park districts, the Southern Pacific and the Santa Fe have pooled their operations and each road switches during alternate years for the account of both carriers. All three railroads also have joint operating service at a chain-store produce warehouse at 3rd and Army Streets.

Extending generally north from China Basin, the Embarcadero with its piers is served by a belt railroad owned and operated by the State Harbor Commission of the State of California. The major portion of the trackage in this part of the city is owned by the Belt Line or by industries, and only a small portion is owned by the trunk line carriers. This area is under reciprocal switching arrangements, and from a rate standpoint the shipper or receiver is under no disadvantage as compared with the areas served directly by the trunk lines. Within this area the three trunk lines own or have assigned to them team tracks within a few blocks of the Washington Street market district. The Southern Pacific and Western Pacific trackage is in the area bounded by Drumm and Davis Streets, from Pacific Street to the Embarcadero. The Southern Pacific also delivers some cars of produce at its Beale Street and Berry Street yards south of Market Street, and the Western Pacific controls tracks between Chestnut and

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Francisco Streets at the Embarcadero. The Santa Fe owns a yard between Francisco and Bay Streets at the Embarcadero, known as the Lombard Street Yard, and it also has the Spear Street Yard, at Spear Street and Embarcadero. Drayage charges are the same from all of these yards to the stores in the market district.

Most cars of fruits and vegetables destined to dealers operating in or near the market district are delivered to the Belt Line and placed on the trackage of the incoming lines. From these locations the contents of the cars are transferred by motortruck to stores in the Washington Street market district or to other destinations. Small quantities of produce destined to outgoing steamships, particularly potatoes, are repacked into export packages at the car door in the railroad yards or in the streets. Some deliveries are also made directly from the car to the buyers without moving through the market district. The greater part of the incoming rail receipts, however, is trucked from the railroad yards to the produce stores some blocks distant. As has been noted, the estimated average cost of this hauling is $26 per carload.

THE TRAFFIC SITUATION

One of the serious handicaps constantly confronting all dealers and buyers in the San Francisco market is the lack of street space in which to get the daily supplies of fresh fruits and vegetables into the market, displayed, sold, delivered to the buyers, and away from the market. Streets are narrow and there are practically no off-street parking areas. During the busy trading hours between 5:00 a.m. and 9:00 a.m., the traffic situation is very serious, causing much inconvenience, costly delays, and extra handling of these perishable food products.

The gravity of the traffic problem has long been recognized, and dealers and buyers have complained for many years that congestion in the market district has greatly increased their costs of operation. However, no comprehensive survey of the traffic situation had been undertaken previous to this study, and the nature and extent of the traffic load in the produce district were therefore not definitely known.

To find out just how many trucks and automobiles of various types are in the market district during the busy hours of the morning, traffic counts were made on Friday, June 12, and on Monday, June 22, 1942. At half-hour intervals a count was made of all vehicles in the market area. These vehicles were classified into five groups: (1) incoming loads of fruits and vegetables; (2) "market" trucks, owned by market dealers or local drayage companies; (3) buyers' trucks and wagons, including automobiles used to haul fruits and vegetables; (4) other passenger automobiles, not used for ahauling produce; and (5) other vehicles, such as the trucks owned by non-fruit-and-vegetable firms located in the market area, trucks delivering milk and bakery goods, ice trucks, garbage trucks, etc. All vehicles within the area bounded by Battery, Jackson, Embarcadero, and Clay Streets were counted. Buyers' trucks parked outside this area were also included, but other trucks and passenger automobiles parked on or beyond Battery, Jackson, Embarcadero, and Clay Streets were not included.

The totals of each class of vehicle at each half-hour interval are shown in table 6 and figure 11. The number of vehicles in the market increased rapidly after 5:00 a.m. By seven o'clock as many as 600 were standing in the market area,

Table 6.-- Number of motortrucks and automobiles in the Washington Street market district, San Francisco, at half-hour intervals from 4:00 to 9:30 a.m., Friday, June 12 and Monday, June 22, 1942 [1]

Time, a.m.	Type of vehicle											
	Incoming loads		Market trucks [2]		Buyers' vehicles [3]		Passenger automobiles		Other trucks [4]		Total	
	June 12	June 22	June 12	June 22	June 12	June 22	June 12	June 22	June 12	June 22	June 12	June 22
4:00	58	52	15	21	9	22	36	52	9	11	127	158
4:30	69	66	19	28	34	42	59	63	9	11	190	210
5:00	62	58	34	32	73	105	68	77	14	10	251	282
5:30	38	46	46	34	155	169	75	80	15	15	329	344
6:00	31	33	40	39	262	277	76	75	17	12	426	436
6:30	23	23	69	68	372	392	82	89	22	21	568	593
7:00	16	22	57	49	405	450	91	97	28	25	597	643
7:30	10	16	47	52	362	420	109	105	31	33	559	626
8:00	17	16	41	39	311	283	131	122	30	26	530	486
8:30	17	14	40	52	229	208	127	136	19	29	432	439
9:00	14	15	49	41	156	154	133	147	16	34	368	391
9:30	10	18	46	45	104	111	154	137	22	30	336	341

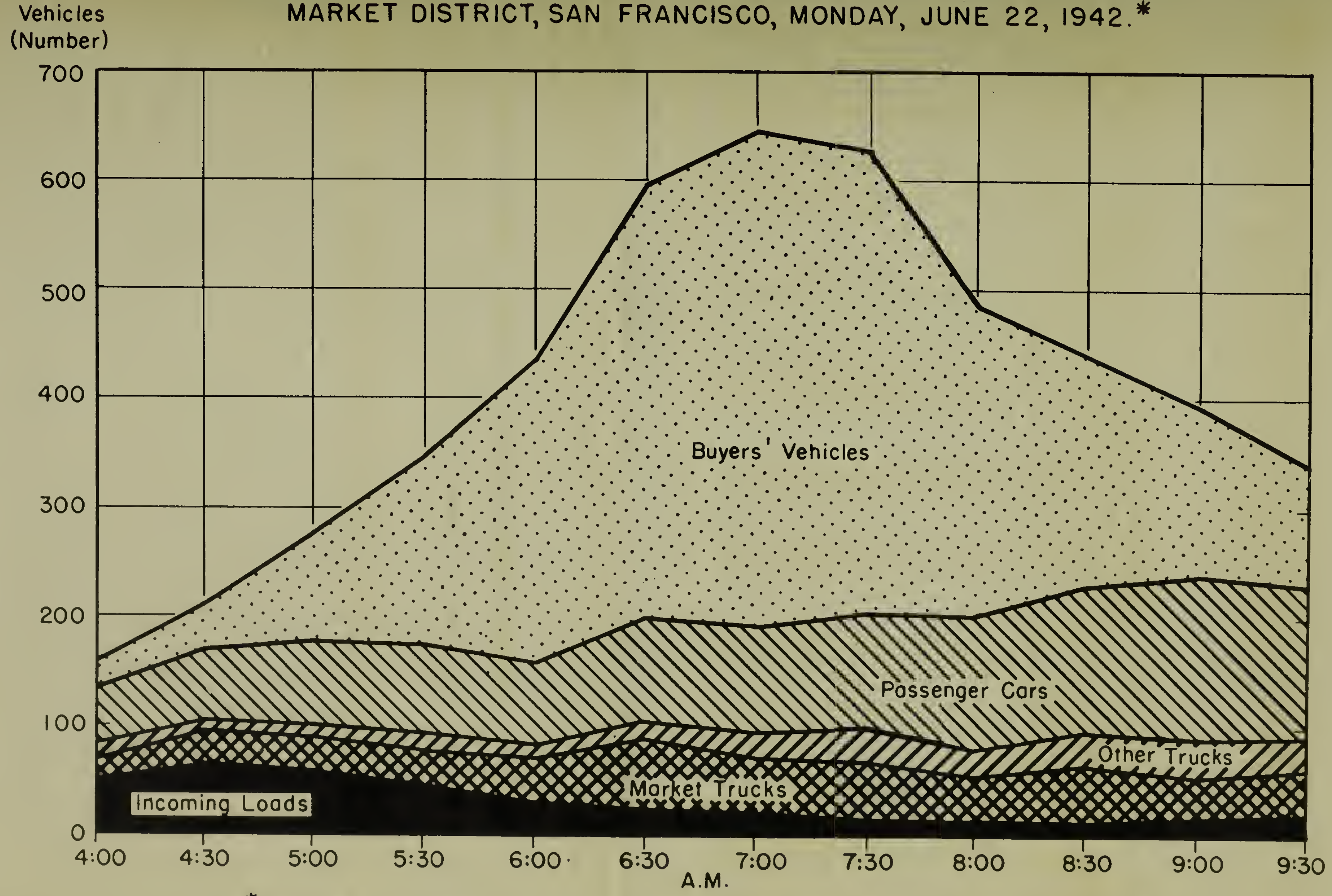
[1] The figures include all vehicles within the area bounded by Battery, Jackson, Embarcadero, and Clay Streets (fig. 3). Passenger automobiles parked on these four streets are not included, but buyers' trucks parked on these streets or adjacent streets outside the area are included.

[2] Trucks owned by market dealers or drayage companies serving produce dealers.

[3] Buyers' trucks and wagons, including passenger automobiles used to haul fruits and vegetables.

[4] Trucks owned by non-fruit-and-vegetable firms located in the market area, and trucks delivering milk and bakery goods, ice trucks, garbage trucks, etc.

NUMBER OF VEHICLES IN THE WHOLESALE FRUIT AND VEGETABLE MARKET DISTRICT, SAN FRANCISCO, MONDAY, JUNE 22, 1942.*



*For area included, and classification of vehicles, see footnote of Table 6.

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FIGURE 11

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and many more were parked in adjoining blocks. This does not represent the total number that are in the market each morning, as trucks are constantly coming and going and many have already left by that hour. 8/ By eight o'clock many of the buyers are leaving, and after nine in the morning there is little further traffic difficulty. The 4-hour period from 5:00 to 9:00 a.m. is the "rush hour" in the Washington Street market district.

In an attempt to alleviate these conditions, during the spring and early summer of 1942 the produce dealers kept incoming truckloads of fruits and vegetables out of the market between the hours of 5:00 a.m. and 8:00 a.m. Trucks arriving after 5:00 a.m. were not permitted to enter the market district and unload until after 8:00 a.m. Relatively few of the incoming trucks arrived during that period, but because some of them were very large and took up much parking space, they added considerably to the traffic difficulties. It is highly desirable to have all of the day's supplies in the market before trading starts, and this regulation was an incentive to the truck operators to get to the market ahead of the dead line. However, during the war emergency these trucks were often delayed on the highways by military traffic and were unable to maintain their normal running schedules. Consequently, this restriction on entry to the market often caused financial losses to producers, shippers, and receivers when the loads failed to arrive in time for the day's trading. It also caused inconvenience, delays, and sometimes losses to the buyers, who often had to wait for such supplies until the trucks were unloaded or go without them. Shipments to the military establishments were frequently held up until one of these late trucks was unloaded.

Even with the most careful regulation the traffic situation in the Washington Street market district would be difficult, for the available street and loading space is very inadequate. The situation is made worse, however, by a complete lack of regulation as to the length of time during which vehicles may be parked in this highly congested area. Many of them regularly stand for hours in the very busiest spots. Some are being loaded and a few carry produce waiting to be unloaded, but some of the motortrucks stand in front of the stores for 2 hours or longer before a package of merchandise is loaded. Many trucks are parked in front of produce stores morning after morning by 4:30 or 5:00, but stand empty and idle until 7:00 or later, while their owners are making purchases, before loading is even started.

It is not only buyers' trucks which waste valuable loading space and thus intensify an inherently bad traffic problem. Several motortrucks belonging to the dealers are left standing in front of the stores throughout the entire selling period -- sometimes with a load of produce only partly unloaded, sometimes just standing idle. On one morning a completely empty truck was parked continuously from 4:00 a.m. to 10:00 a.m. in front of a store without ever being moved or having a package placed on it. Inquiry was finally made as to why such valuable space was so wasted and the reply was merely that the truck might be needed to make a delivery to some large buyer. During the entire morning not

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8/ Table 7, page 29, indicates that only about 65 percent of the San Francisco retailers that go to the market are there at 7:00 a.m. About 10 percent had already left by that time, and the other 25 percent arrived after 7:00 a.m.

one buyer had been able to use that street space, and the particular firm had not delivered a single package from its entire stock of merchandise at its one and only loading space. Its deliveries had all been made by handtruck to buyers' vehicles standing in other parts of the market.

There is one obvious reason for such flagrant abuses of parking privileges in this busy area. If a buyer who comes early does not park his truck near the produce stores, he will probably not be able to get there later. Then when he has finished his buying and is ready to load, he will have all the more difficulty in getting his purchases delivered by the porters to his truck. If he does not take the best parking place, someone else will take it and may keep it for hours. As a natural consequence, everyone takes the best place available at the time he comes, and holds it.

Many passenger automobiles that are not used to haul produce are parked within this highly congested area during the busiest hours. Table 6 indicates that the number of these cars increased to more than 100 by 7:30, while traffic was still seriously congested. Some stop in the busy sections of the market; several park regularly on Oregon Street, back of the produce stores; others park nearer the edge of the area, but, as stated above, automobiles that were parked on or beyond Battery, Jackson, Embarcadero, and Clay Streets, are not included. In addition to the numbers of passenger automobiles listed in the table, as many as 120 were counted on Jackson and Clay between Front Street and the Embarcadero. To add still further to the gravity of the traffic problem, many nonmarket vehicles pass through the cross streets and side streets during the trading hours.

In summary, the street plan and store facilities in the present market district are such that even with the best procedures and regulation, traffic congestion would be a costly burden. Prevailing practices make an inherently bad situation even worse.

BUYING PRACTICES OF SAN FRANCISCO RETAILERS

The facilities and operations of the wholesale produce market affect many groups. The survey of the market disclosed much information concerning the buyers, but to learn more about how San Francisco retailers get their fruits and vegetables, 82 were interviewed. The stores operated by these retailers are of all types and sizes and are located in all sections of the city. About one-third are small stores, located mostly in residential areas. The others are of medium to large size, and are situated in shopping centers and business districts or on arterial streets.

The number of different kinds of fruits and vegetables carried by the retailers was generally very large. For the entire group of 82 stores, the average was 33 items on display. This count of items in stock was based on the number of separate products; thus oranges of all sizes were classed as a single product, apples of all varieties were considered as one item, etc. The number per store ranged from 5 to 60. In only 10 percent of the stores were there less than 16 products, and in more than half the stores over 35 items were displayed.

The quantity handled, as well as the number of lines, varied widely among the stores. The estimated average wholesale value of weekly purchases per store over the whole year ranged from $6 to $2,000. Five retailers estimated

weekly purchases ranging from $1,000 to $2,000, but in the 15 smallest stores weekly purchases were less than $50 each. About one half of the retailers estimated their average weekly purchases to range between $50 and $200. The value of purchases varied much more widely than did the number of items, indicating that even the smaller retailers generally stocked a large number of products.

The scope and nature of the retailer's buying problems are thus clearly indicated. He goes to market not to purchase just one or a few products but many. Each morning he must judge the quality and price situation for each of several commodities. He must then select and purchase the particular varieties, sizes, and grades of each product that can be most profitably sold to the customers of his store. All this must be done quickly, for his main business is to operate a store and not merely to buy produce. The facilities of the wholesale market should be such as to permit rapid inspection, purchase, and loading.

In San Francisco it is the general practice of retailers to go to the market and to haul their purchases in their own trucks. Of the 82 retailers interviewed, 68 reported that the proprietor or some employee went to the market to make personal selection and purchase of supplies. Only 6 telephoned their orders to a dealer in the market. The remainder, 8 in number and all small in size, purchased at their doors from peddlers or traveling dealers known as "truck-jobbers," who buy at the market and sell to the small city stores or to those in outlying towns.

Of the 68 retailers who bought in person at the wholesale market, 53 bought daily, 8 went three times a week, and 7 went twice a week. Practically all buyers are in the market every Monday morning, and nearly 80 percent are there every day. The adequacy of the wholesale market must be judged in relation to the numbers of buyers it serves, as well as the individual needs of these buyers. It is also important to know the hours at which the buyers arrive and depart, for the type and size of facilities needed to serve them will in part depend on the maximum number of buyers in the market at any given time.

Estimates of arrival and departure times were obtained from 64 of the 68 dealers who made their purchases at the produce market. Only a few arrived before 4:00 a.m. By 5:00 more than one-fourth had arrived; by 6:00, more than half; and by 7:00, three-fourths. Nearly all the buyers reached the market before 8:00 a.m.

None of the retailers interviewed ordinarily left the market before 6:00 a.m. By 7:00 a.m., 10 percent had departed, and by 9:00 a.m. nearly 80 percent had completed their purchasing and loading. The average hours of arrival and departure were 6:18 a.m. and 8:30 a.m., respectively, indicating an average time in the market of 2 hours and 12 minutes.

The time of arrival and departure of the members of this group indicates at least roughly the percentage of the San Francisco retailer-buyers that are in the market district at each hour of the morning. Table 7 indicates that about two-thirds of the total number are at the market at 7:00 a.m., and that most of the buying activity is concentrated in the 3-hour period from 5:00 to 8:00 a.m. Although these tabulations do not include all classes of buyers in the market, they agree closely with the traffic counts described on preceding pages.

Table 7.-- Number and percentage of 64 retailer-buyers in the Washington Street market district during successive hours from 3:00 a.m. to 1:00 p.m. as reported by interview

Hour, a.m.	Retailers arriving		Retailers departing		Retailers in market 1/	
	Number	Percent	Number	Percent	Number	Percent of total
3:01- 4:00	4	6	0	0	4	6
4:01- 5:00	13	20	0	0	17	26
5:01- 6:00	19	30	0	0	36	56
6:01- 7:00	12	19	7	11	41	64
7:01- 8:00	10	16	26	41	25	39
8:01- 9:00	1	1	18	28	8	12
9:01-10:00	5	8	6	9	7	11
10:01-11:00	0	0	3	5	4	6
11:01-12:00	0	0	3	5	1	1
12:01- 1:00	0	0	1	1	0	0
Totals	64	100	64	100		

1/ The number and percent of the retailers in the market during each hour were calculated by subtracting departures from arrivals.

About 60 percent of the retailers interviewed stated that they remained in the market 2 hours or less. More than 90 percent had departed within 3½ hours. Time reported for inspection and purchasing ranged from one half hour to 3½ hours, with an average of 1½ hours. Time spent in assembly and loading of purchases was reported to range from one quarter hour to 1½ hours, and averaged three quarters of an hour, or one half the time required for inspection and buying. The total time spent by these retailers in the market district ranged from one half hour to 4½ hours, averaging 2 hours and 12 minutes.

This survey of retailers' practices indicates the problems facing them. More than 2 hours each morning, on the average, is spent in obtaining the day's supply of fruits and vegetables. Nearly all retailers complained of traffic congestion, lack of parking space, delay through hand porterage, and lack of sanitation. Undue delay in assembling and loading their purchases was one of the most serious complaints. These conditions bear as heavily on retailers as on the wholesale produce dealers themselves.

Of the 68 retailers who went to the market for fruits and vegetables, only 12 made a practice of getting other products on the same trip. Most of these bought groceries; a few included meats, dressed poultry, or eggs. More than 80 percent of the total number purchased no other supplies and returned to their stores with fresh fruits and vegetables only.

BASIC DEFECTS OF THE WASHINGTON STREET MARKET DISTRICT

The basic defects can be stated briefly: the Washington Street market district has neither facilities nor space in which to handle properly and efficiently the city's daily supplies of fresh fruits and vegetables; the methods of operation which of necessity have developed out of this situation add a heavy burden of costs to the distribution of these products.

The stores and the market lay-out are poorly adapted to the functions that must be performed. Buildings were not designed for rapid handling of heavy, bulky, and perishable foodstuffs. All floors are at sidewalk level, without platforms on which to unload incoming supplies, or to assemble and load the outgoing produce. The greater number of the stores have only front entrances through which all produce must be moved in and out. Because of the inconvenience of getting to the back part of stores, much of the floor space is little used, even though ground floor rents are extremely high.

Stores front on narrow streets, which can provide working space for only a small fraction of the vehicles that bring in and haul away the hundreds of tons of perishables each day. Traffic congestion and delay are serious. Very little off-street parking is available. Direct rail connections are nonexistent, and supplies arriving by rail must be reloaded onto motortrucks to be delivered to the stores. Receipts by motortruck, whether from the railroad cars or direct from the country, must be unloaded to the sidewalks or into the street, and thence moved by hand trucks into the stores. Because of lack of street space and parking areas, buyers must leave their motortrucks or automobiles some distance from where they buy, then have their purchases brought to them by handtruck. The excessive handling involves delay, extra costs, and significant deterioration of the tender and perishable products. The unsanitary conditions that prevail may involve actual danger to the consuming public.

These inefficiencies and costly methods of handling affect producers, wholesale dealers, retailers, consumers, transportation agencies, and other interests. Yet in the face of these burdens, very high rents are obtained for these unsuitable and inadequate facilities. Why have dealers submitted to these heavy charges under such unsatisfactory conditions? The answer is simple and clear. Because of many conditions peculiar to the wholesale distribution of fresh fruits and vegetables, no single dealer or group of dealers can move from the district and continue to draw customers. A large part of the property in the area is owned or controlled by a few produce dealers, and an even larger part of the rental income is obtained by them. Such dealers naturally resist any program of real, fundamental improvement by which marketing costs can be decreased, because such programs would reduce the large incomes from their ownership of the present market properties. So long as dealers operate under approximately the same inconveniences and high costs, and the large property-owning interests resist change, inertia can be expected to continue within the industry. But the methods and the costs of food distribution in San Francisco are important to all residents of the metropolitan area and likewise to the agricultural communities which produce the foods.

In the preceding pages, the present market and its operations are described and its basic defects pointed out. The next section of this report deals with methods of improvement or reorganization. Different courses of action are considered, and an effort is made to determine which would be effective in obtaining the greatest savings to the community in the handling of this part of its daily food supply.

HOW MAY THE MARKET BE IMPROVED?

San Francisco's wholesale fruit and vegetable marketing facilities have not kept pace with the growth and needs of the city, nor with changes in production and transportation. The Washington Street market district was established in its present location in 1906 immediately after the fire, just a short distance from where the original market had stood. Even at that time some of the more farsighted dealers thought the location was not the most suitable and tried to induce the entire trade to move to a more centrally situated section of the city. But a few large dealers insisted on remaining in the old district; roofs were rebuilt over some of the standing walls, other structures were erected, and soon the market became fixed in the present cramped quarters.

In 1900 the population of the city was 343,000. By 1940 the number of people in the city had almost doubled, and many suburban sections had been developed. Also when the present market was established, the number of pounds of fruits and vegetables eaten per person was less than in present-day diets. Supplies were received by horse and wagon, by boat, and by railroad, and the buyers took home their purchases with horse and wagon. Now two-thirds of these food products are speeded to the city by gigantic motortrucks, travelling from all parts of the State over broad highways and great bridges. Many improvements have been made in production, harvesting, and shipment, to place on the market a year-around variety of perishable food products of a quantity and quality undreamed of at the turn of the century.

But when these products get to the city, most of them come to the same old store buildings that were erected at the turn of the century, located on the same narrow streets. San Francisco needs new marketing facilities, because present facilities are physically inadequate to perform the functions required of them, operations are excessively costly, and handling conditions are dangerously unsanitary.

What kind of market is needed? How large should it be? Where should it be located? How should it be operated? How much would it reduce the cost of distribution? These and many other questions must be considered.

First it is necessary to determine just what the market itself should be -- what facilities would be needed, how these should be arranged and operated, and how much space they would require. Improvements in lay-out and operation of the market itself offer the greatest opportunity for savings in distribution. Location of the market is of secondary importance, because a well-arranged and adequate market might function almost equally well in any one of several locations in the city. The matters of primary importance are to have within the market itself the right type and size of buildings and other facilities, and to have them laid out and operated so as to provide for the most orderly and efficient movement of goods between incoming carrier and outgoing trucks. Only after the market itself has been planned can the question of location be decided, for the desirability of an available site can be decided only in reference to the actual needs of a new market.

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ESSENTIALS OF A GOOD MARKET

What are the requirements for a city wholesale fruit and vegetable market? What functions does it perform, and what is needed for best performance of those functions? What general principles should be considered in market planning?

Major essentials of a good market are suitable design, proper location, reasonable cost, completeness, effective price making, and sound management.

Suitable Design

The main job to be done in a wholesale fruit and vegetable market is to receive and distribute an immense quantity of highly perishable food products in a very short time. San Francisco uses, on the average, about 1,000 tons of these foods every day. They come from many and widely scattered producing districts. Most receipts arrive during the night or early morning; if they are to reach the consumer in the best possible condition they should be in the retail stores early the next forenoon. During the few intervening hours they must be unloaded from the incoming carriers, sorted and stacked, displayed, sold, and delivered to the buyers. The products are bulky and heavy, and many of them are tender and easily bruised. Handling and rehandling should be held to the absolute minimum, not only because of the work and expense involved but also because each handling may cause some additional deterioration or waste before the product finally reaches the consumer's table.

In its barest essentials, a good produce market consists of one or more large rectangular concrete platforms at motortruck height, covered for protection from sun and storm, surrounded by wide streets, and with railroad tracks adjoining for direct unloading from cars. This platform is divided crosswise into store space for the various wholesale dealers, each store extending across the entire platform. However, only the central portion is partitioned between stores, leaving along each side a wide, continuous, covered walk or arcade the entire length of the platform, unobstructed by partitions or doors. The walk at the front of the stores should be at least 25 feet wide; this is the "sidewalk" of the market, where each dealer displays his merchandise, does much of his selling, and makes deliveries. The opposite walk at the back end of the stores should be about 15 feet wide, to be used for delivery of produce to or from outgoing or incoming carriers, and for interchange between stores. The roof over each walk should extend beyond the edge of the platform, for protection from rain during loading and unloading.

Streets along both sides should be of ample width for motortrucks to be parked at right angles, to load and unload at both front and rear of each store. The railroad tracks paralleling the rear platform should be paved level with the top of the rails so the motortrucks can be backed in when railroad cars have been removed. These covered platforms might properly be compared with railroad freight stations, where merchandise is wheeled out of railroad cars and motortrucks, arranged and stacked on the platform, then reloaded into outgoing carriers.

The number of separate platforms and their arrangement in relation to each other would depend upon the total volume of produce moving through the market. A fairly definite area of platform is required for any given volume of

produce and the total size of platform should be determined primarily by the total volume handled. All of the required space could be provided on one continuous platform, and in a small city such a lay-out would be desirable. In a city with a large volume of business, one continuous platform would be of such great length that buyers and dealers would be inconvenienced by the distance from one part of the market to another. In a market suited to the needs of San Francisco, probably the most convenient arrangement would be two parallel platforms, with a wide street between, The main features of such a market are indicated in figure 12.

The wholesale distribution of fresh fruits and vegetables differs in one respect from the wholesaling of other types of merchandise. It is the single important distributive industry in which the buyer regularly goes to the market for personal inspection and selection of his supplies. Nearly all other merchandise is now bought at wholesale on a basis of grade and quality description; personal inspection usually is not necessary. With fresh fruits and vegetables there are many varieties and types, in each of which are wide variations in quality, condition, size, color, and other factors. Because of these differences and the consequent price variations, the general practice is for retailers to visit the produce market regularly. Furthermore, most of them come at the same time of day, and each with a motortruck, wagon, or automobile in which to haul his purchases back to his store. In addition to the platforms required for the daily storage, display, and handling of the hundreds of tons of merchandise, a much greater area of ground is needed for streets and parking places. Space must be provided that is adequate not only for all the vehicles to stand, but in which they can move freely from one part of the market to another.

The market should be so located that it can be completely enclosed with fences and gates, to make possible the regulation of deliveries and the enforcement of selling hours, and to expedite the gathering of information on the volume of current receipts. This can be done only if the market is located in an area that can be closed to nonmarket traffic.

Proper Location

From the standpoint of location there are three fundamental requirements for a city wholesale fruit and vegetable market: (1) accessibility to incoming and outgoing transportation; (2) shortest average time distance to buyers; (3) sufficient area at a reasonable cost. There will be difficulty in finding a place that fully meets all these requirements but a site should be selected that comes as near as possible to doing so.

The market should be easy to get to from all highways that are important in bringing in supplies. Not only should it have direct connections from such highways, but it should be located where it can be reached through a minimum of heavy city traffic. The market must have direct rail connections, open to all railroads on equal terms.

It should not only furnish convenient street and highway connections in the directions from which buyers come, but it should be near the point which represents the shortest average time-distance from all buyers that use it. Buyers should not only be able to make their purchases in as short a time as possible, but with the least amount of travel to and from the market each day.

SUGGESTED SIZE AND ARRANGEMENT OF FACILITIES FOR A WHOLESALE FRUIT AND VEGETABLE MARKET IN SAN FRANCISCO, CALIFORNIA.

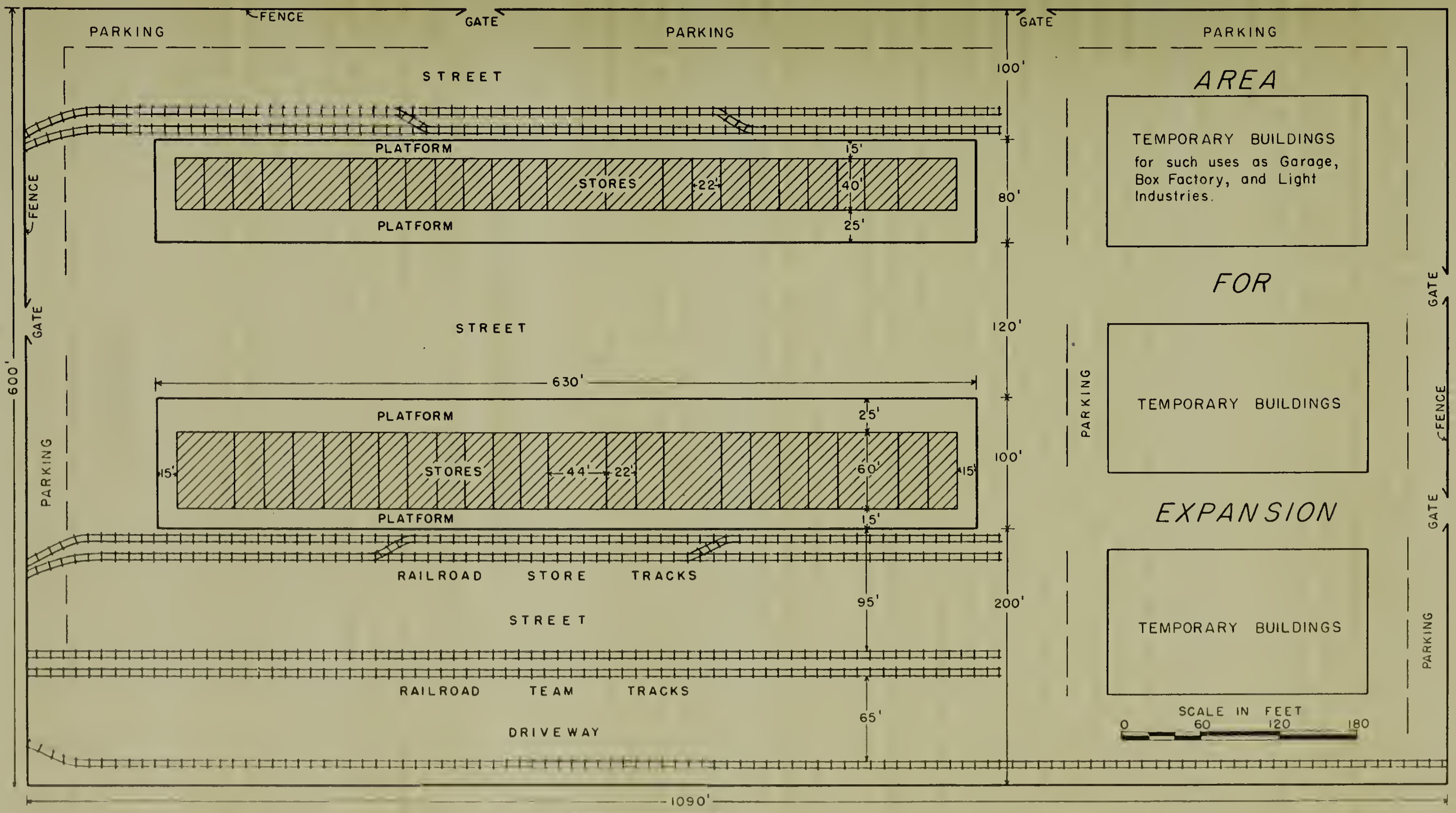

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FIGURE 12

This illustration is merely to show how platforms, stores, and other facilities described in this report might be arranged for quick and efficient handling of fruits and vegetables, and to indicate the space that would be required. Much work and consultation among members of the produce trade, engineers, architects, transportation agencies, city officials, and others--and the selection of a definite site--would be necessary before a detailed lay-out for a new market could be made.

A basic necessity of an efficient market is plenty of room. Because such a large area is needed, the price for the location plays a large part in determining the total cost of the market and the charges to be paid for its use. If carrying charges for the land offset the gains from good facilities, there is no net reduction in the cost of food distribution. Therefore it is essential not only that a sufficient area is available, but that it can be obtained at reasonable cost.

One factor favorable to obtaining sufficient land at relatively low cost is that the produce market need not be in the business district of a city. The wholesaling of fruits and vegetables is an industry which in many respects is separate and distinct from nearly all other business enterprises. In the first place, it is conducted at a different time of day. The almost universal practice is for buyers to go to the market early in the morning before other business establishments are open, get their fruits and vegetables and take them back to their retail stores or other places of business. As indicated in a preceding section of this report, few San Francisco retailers buy other products on the trip that they make for fruits and vegetables. Therefore the section of the city in which the market is located makes little difference to the buyers, if it is reasonably near the center of the buying area and has good street and highway connections. It need not be near other mercantile establishments, but can be in a relatively undeveloped and low-priced part of the city.

A further matter of considerable importance is that the market be so located that it can be shut off from all nonmarket uses and completely enclosed by fence. Buildings, railroad tracks, and streets should be arranged for most convenient and efficient operation of the market itself. Present city streets should be closed so the entire area can be developed as a single unit. Furthermore, the enclosure of the market by fences and gates is the only really effective means by which selling hours can be enforced and deliveries regulated. It also expedites the gathering of information on the volume of each morning's current receipts, the knowledge of which is important for the establishment of stable prices for each day's operations.

Reasonable Cost of Facilities

Only the necessary facilities should be provided, and these should be plain and relatively inexpensive. During the last two decades several markets have been built in the United States, in which there has been a tremendous waste of funds in providing too many facilities, in building them too large and too elaborate, and in providing unneeded accessories and fancy trimmings. The wholesale distribution of these products is primarily a big moving job, that should be done as conveniently as possible and during the shortest possible time. Modernistic buildings, unused upper stores, and too many facilities add unnecessarily to the cost of food distribution. There is no net gain in cost if the savings from efficient lay-out are offset by high carrying charges on expensive new facilities.

Completeness

The wholesale market should handle a complete line of all fruits and vegetables in season that arrive by all methods of transportation. No market

should have its supplies restricted to any type of transportation. Retailers, jobbers, and out-of-town buyers should be able to get a complete variety of fruits and vegetables within the one market area.

Effective Price Making

A good market should not only be located and laid out in such a way that it will take care of the physical movement of produce, but it should also make possible the proper operation of the price-making forces. An important function of a market is so to focus supply and demand that equilibrium prices are quickly established. All dealers and buyers should find it easy to learn the volume of available supplies. Buyers should not be admitted to the market until the hour set for the beginning of trading, so that both sellers and buyers may quickly form their estimates of the day's demand situation. This will help greatly in setting prices at which the day's supplies will be cleared and will minimize the necessity for price adjustments on early sales. Lack of complete and accurate information results in wide price variations and fluctuations. A market should provide for the concentration of supplies and buying power and should be so regulated and operated that the price-making mechanism can operate efficiently.

Sound Management

No matter how well a market has been designed, how complete it is, or how perfect its location, it cannot function in the best possible way unless it is well managed. It should be so managed that it will operate in the public interest without discrimination against any type of dealer or buyer, against any form of transportation, or against produce from any State. Charges levied on the industry for the use of the facilities should provide only for cost and maintenance, and should not be designed to produce a profit for any nonmarket purpose. Although dealers who operate within it should be allowed the maximum practicable degree of individual initiative in conducting their respective businesses, the market management should be strong enough to assist the industry in enforcing desirable regulations and in stopping practices which add unnecessarily to the cost of distribution.

In order that the market may so operate, its board of directors or other managing agency should include representatives of each of the groups which have a direct interest in it -- producers, dealers, buyers, consumers, appropriate agencies of government, and perhaps other interested agencies.

The above is a general discussion of the essentials of a good market, and would apply to a wholesale market in almost any city. In the following pages these principles are applied to the situation in San Francisco, to indicate the size of facilities needed, where they might be located, and the potential savings to be derived from the use of such facilities.

MARKET FACILITIES NEEDED IN SAN FRANCISCO

Platform Stores

Size and Lay-out

The size of stores should be proportional to the volume of fruits and vegetables handled. This applies not only to the store units of individual dealers, but also to the total store area in the market as a whole. Unused capacity adds unnecessarily to the total cost of the market, and the initial building program should be limited to actual current requirements. If need develops later for additional stores, they can be added if provision for expansion was made in the original plans for the market.

The present market has more than 11,000 square feet of store floor and sidewalk space combined for each 1,000 carloads of fruits and vegetables handled per year. This cannot be taken as a guide because much of this space is little used. This is particularly true of the back portion of stores that have no rear entrance. In most cases, only the sidewalk and the front portion of such stores are fully used, and a firm with 4,000 square feet of store area may have only 2,000 square feet in active use. A small store efficiently arranged with ample platform space and with wide streets for loading and unloading at both ends, will handle the same quantity of produce more satisfactorily than will a larger store with only a single entrance on a narrow street. The total space requirement of a well-designed market would be much less than the total floor area of the stores that are now used.

It will not be possible exactly to fit the business of every firm to a particular area of floor space. The volume and types of products handled will vary considerably at different seasons of the year, and also from one year to the next. As business increases or decreases, individual operators are unable readily to adjust their space accordingly. But for the market as a whole some fairly definite relationship will prevail between total volume handled and total area of store space required for most efficient year-around operations. What is this volume-space relationship?

Few city wholesale markets have well-designed stores and a well-planned arrangement of facilities; therefore data are limited on which to determine the optimum relationship between volume handled and total store area. In general, however, it appears that in the large markets there is a ratio of about 3,000 to 3,500 square feet of total platform store area per 1,000 carloads of fruits and vegetables handled during a year. Markets with a smaller volume normally use a larger floor space, partly because individual dealers find it more difficult to utilize their space fully, and partly because land and rental values are usually not so high as in the larger cities. A ratio of 4,000 square feet of total platform store space per 1,000 carloads per year appears to be adequate in medium-sized markets, and under no circumstances would there seem to be any need for more than 5,000 square feet. This ratio applies to total receipts by all methods of transportation, and is expressed in carlot quantities merely as a matter of convenience. A carload is assumed to average about 25,000 pounds gross weight of fruits and vegetables, as received at the wholesale market through normal channels of commerce.

As outlined in earlier sections of this report, the volume of produce handled through the present general market area amounts to approximately 21,000

cars per year. This volume may increase or decrease in years to come. In any reorganization of the market provision should be made for expansion, if and when needed, but at the time of reorganization the size of the market should so far as possible be proportional to actual current requirement. If it be decided that the initial development program for a market in San Francisco should provide 5,000 square feet of total platform floor space per 1,000 carloads handled a year, the over-all size of the platforms on which the stores are located should be about 105,000 square feet.

Another problem concerns the division of this total space into store units for the various dealers in the market. The length of individual stores would be determined by the over-all size of the platform upon which they are located. Platforms might be of different size, to provide a different length of store on each platform. Experience indicates that 100 feet is a desirable over-all length for the larger stores. This is the measurement from the outer edge of the front side of the platform to the outer edge at the back. For the front walk, on which produce is displayed and sold as well as delivered, 25 feet has proven to be a desirable width. For the back walk, used primarily for the receipt and delivery of merchandise on the four-wheeled type of platform truck, a width of 15 feet is indicated from experience in other markets. The covered platforms at front and back of the stores would then have a combined width of 40 feet, leaving 60 feet for the enclosed section of the store proper.

The smaller stores might also have 25- and 15-foot platforms at front and back, respectively, and 40 feet of enclosed section instead of 60 feet. Total store-and-platform length would then be 80 feet. This should be suitable in San Francisco's climate, where business can be conducted the year around in open, unheated space, and the enclosed part is needed only to carry over relatively small quantities of produce from one day to the next.

Two platforms, each 630 feet long, one 100 feet in total width and the other 80 feet, should provide sufficient space for San Francisco's needs. On each of these platforms a total length of 600 feet should be divided into stores, leaving 15 feet at each end exclusively for additional covered loading space for buyers. The combined store areas, including front and rear walks, would then be 60,000 and 48,000 square feet, respectively, and would total 108,000 square feet. With the additional 15-foot loading spaces at the ends, the total platform area would be 113,400 square feet (figure 12).

Store units on these platforms should be in widths appropriate to the needs of individual firms. However, it would probably be desirable to make the minimum width between partitions not less than 25 feet, rather than to divide the space into very narrow stores. Firms with only a small business could then occupy such units jointly, one using the side against one partition, and another firm the other side. This is a common practice in many markets and is considered preferable to dividing the stores into narrower units. Firms that need larger store space could take two or more adjoining units, without partition walls.

Basements

Basements have been provided under the store units in most modern produce markets. These are used for storage and for special facilities such as banana-ripening rooms. The movement of heavy and bulky perishables into and out of basements involves a considerable amount of extra handling and expense, and

question has often been raised as to whether it is more desirable to provide basements or additional ground-floor space. Refrigerated boxes have frequently been built in the basements, but many dealers have expressed a preference for refrigerated storage on the main floor because of much greater convenience.

In San Francisco additional elements enter into consideration. With the mild but uniformly cool and moist climate, basement storage does not have the advantage that it has in other climates where it furnishes protection from cold or heat. The chief consideration, however, may be the nature of the land upon which a new market is to be located. Most sections of San Francisco in which areas suitable for a market might be obtained are filled-in land. Piling is needed in such locations, and the additional cost of water-proof basements would be so great that they would not justify the use which would be made of them . In the present market, a number of stores have basements but only a few are suitable for any use, the others being partly filled with water. The principal use made of basements in the present market is for banana-ripening rooms. There is no necessity for conducting such operations in basements, however, as is attested by the fact that three of the largest banana-ripening plants in the city are above ground.

The decision as to whether a wholesale fruit and vegetable market should have basements under the stores would depend first upon the nature of the land where the market is to be built. If built on made land, the cost of basements would not be justified. If built on solid ground in which the water level would not require costly waterproofing, study should still be made as to whether in San Francisco sufficient use would be made of them to justify the cost.

Cold Storage

In the cool climate of San Francisco, cold-storage facilities are not so essential a part of the equipment of wholesale fruit and vegetable stores as in other cities. They are needed by dealers handling the more perishable types of produce, but would be of little use to those who specialize in the less perishable products. Individual refrigerated rooms could be installed by dealers who have need of such space. The present cold-storage warehouses of San Francisco would continue to supply the needs for regular seasonal storage.

Offices

The office for each store operator can be provided most advantageously on a mezzanine in the store unit. Such an office provides a view of the sales floor and fairly direct supervision of sales and deliveries, without taking up any of the main floor space.

Additional offices are needed for produce firms and other enterprises connected with the market that do not occupy store space. These would include brokers, shippers, and other marketing organizations, representatives of transportation lines, local drayage offices, telegraph companies, restaurants, and the like. Space for these might be provided in a separate structure in the market, but the most satisfactory arrangement, from the standpoint both of cost and convenience, would be to have second-floor space built over part of the store units. Such is the arrangement in several markets that have been built in other cities.

Railroad Tracks and Store Connections

Two railroad tracks should be laid parallel to the back platform of each group of stores for direct unloading of merchandise. Cars on the outer track could be unloaded through the doorways of cars on the first track, or over a catwalk laid between cars on the inner line. On this double track, two refrigerator cars could be placed at each 46 feet of platform, the equivalent of one car to each 23 feet of platform.

Cars might be switched to and from these platform tracks several times for each day's unloading operations. They should be removed before the selling period, so the back platforms could be used for loading the trucks of buyers. In many instances, particularly in the case of products under refrigeration, it is not desirable to unload immediately the entire contents of a car into the store. Such cars might be placed upon a team track in the market and supplies hauled to the store by truck as needed, or the car might be placed at the store, partially unloaded, and then switched to the team track. If, in the future, San Francisco receives no larger percentage of its fruits and vegetables by rail than during the years immediately preceding the war, the volume to be unloaded at the stores each day is not likely to tax the track facilities. Some firms might receive several cars a day at certain seasons of the year, but other dealers seldom receive any cars, getting all of their supplies by motortruck.

The length of time required for unloading varies somewhat by commodities, and particularly by the size and number of packages to be handled. For most products, the unloading time is reported to range from 3 to 6 man-hours per car. That is, 3 men can unload a car in from 1 to 2 hours. The tracks at the stores might be switched at specified 3- or 4-hour intervals and thus make it possible for dealers handling several carloads per day to get those cars at or near their stores for direct unloading. With a continuous platform along the ends of the stores, it is not necessary that each car be spotted immediately opposite the store into which it is to be unloaded.

Many variations of handling and unloading practices can be developed to suit the seasonal needs of receivers. In the markets which have direct track connections to the stores, the dealers are universally enthusiastic about this method of rail delivery. It not only eliminates the heavy cost of hauling supplies from distant team tracks, but adds to the convenience of operations. Tender and highly perishable products can be unloaded into the stores with a minimum amount of handling, resulting in smaller losses from injury and deterioration.

Streets

The width of the street between the groups of store buildings should permit all vehicles to park at right angles to the platforms and still allow sufficient space for free movement of other vehicles through the street between the rows of parked trucks. Based upon the present size and length of over-the-road trucks hauling fruits and vegetables to the markets, the minimum width of such street should be at least 110 feet. This would permit the parking of 40-foot vehicles on both sides, and still allow 30 feet of driveway space through the center.

The streets should not be wider than necessary because the farther the groups of stores are removed from each other, the greater will be the inconvenience to all those who do business in the market. Vehicles should not be allowed

to park or stand in the center of the street. Neither should idle vehicles be allowed to park at the platforms, Adequate and convenient parking areas should be provided around the market so that any vehicle which is not engaged in loading or unloading produce can be parked out of the way of market traffic.

Streets back of the stores should have at least 60 feet of working width from the edge of the platform, exclusive of parking areas that may be provided on the outer edges. Street space at the ends of the market should also provide not less than 60 feet of working space to permit vehicles to load at the end platforms and still allow for prompt access to and exit from the rear driveway.

Parking Areas

Parking space for business cars and for trucks not engaged in loading or unloading is highly essential if the street and store-front space is to be kept available for "working" trucks. Without such provision each incoming buyer drives just as far into the market as he can find a parking space, and leaves his vehicle there even though it may be hours before he expects to load. Other trucks are prevented from using these spaces and must wait for other locations or have their loads moved by hand porterage. This is the situation which has long prevailed in the Washington Street market district. The streets and loading spaces in the market are needed for the job of transferring the several hundred tons of produce between incoming and outgoing transportation, and should not be tied up with idle vehicles. All waiting or nonworking vehicles should be kept out of the streets, and the only way this can be done is to provide definite, ample, and convenient parking areas. Parking places should be designated throughout the market wherever any space can be made available, rather than all in one place, for the more conveniently they are located, the fewer will be the idle vehicles standing in busy locations. Total parking space should be provided for 300 vehicles of buyers, in addition to automobiles used only for personal transportation by employees or others in the market.

Fences and Gates

The entire market area should be enclosed with a substantial fence, with gates at all entrances, for enforcement of regulations regarding hours of entry, sale, and delivery. A single entrance for incoming supplies greatly facilitates the assembly of information on the quantities of each night's truck receipts, making it possible to release earlier yet more complete reports.

Cost of Facilities

The costs of future construction cannot be estimated accurately in these uncertain times. The only guide which can be used as a possible indication is pre-war construction costs. Based upon such pre-war costs, engineers in the San Francisco Bay area have estimated that the one-story, freight-station type of structure that is most suitable for produce stores would cost about $2.65 per square foot for the total platform area. This is, of course, a very general estimate, but is based upon the actual costs of many such structures that have been built in the West. On this basis, 113,000 square feet of platform space suggested as the initial construction for the market would cost about

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$300,000. In addition, some second-story office space should be provided. Possibly the enclosed 60-foot section of the 600 x 100 foot structure might be built to two stores for one half its length, to provide for the space requirements of produce firms and allied interests connected with the market that do not operate stores. This might approximately double the cost of that section of the structure, adding $50,000. The total cost of the two main structures of the market would then be approximately $350,000.

Similar estimates made by the same engineers of the cost of paving streets and driveways, and the construction of railroad trackage, utilities, and fencing totaled some $300,000. Adding this amount to the estimated cost of the store structures, the total cost of construction of the entire market facilities would then be about $650,000. This does not include cost of land, which must be added to determine the total cost of a new market. Neither does it include the cost of any piling that might be necessary in sections near the Bay. Although piling is a building cost, it is here considered as a part of the cost of land in order to compare the respective total costs of different sites for a market.

POSSIBILITY OF REMODELING PRESENT BUILDINGS IN THE WASHINGTON STREET MARKET DISTRICT

When market improvement is proposed, first consideration should be given to the possibilities of renovation or reorganization of the present facilities. Could existing stores and buildings be used for a new market?

Perhaps the greatest single shortcoming of the Washington Street market district is lack of street space for the vehicles that bring in and take out several hundred tons of produce each day. Washington Street measures only 30 feet from curb to curb, and the three cross streets 40 to 45 feet each. The lack of space and the fundamental defects of present buildings are such that partial remodeling or palliative regulations cannot significantly or permanently improve conditions. Not even the best type of market structure could operate efficiently in the distribution of fruits and vegetables, if located on the present narrow streets.

Some measures might be taken to widen Washington Street, as the central street of the market. But ordinary street widening by cutting back the width of the sidewalks would not suffice. In the first place, sidewalk or platform display and loading space is absolutely essential. Furthermore, the central street of a produce market should be not less than 110 feet in width, to permit right angle parking of large motortrucks along both sides for loading and unloading. Obviously the only way any of the street in the present market could be extended to that width would be by tearing out completely the buildings along one side of the street, and rebuilding at the new street width.

Thus stores might be torn down along the south side of Washington Street, to furnish sufficient width for this main street of the market. The buildings then left standing in the blocks between Washington and Clay streets would not be at all suitable for a produce market, and would have to be completely remodeled, or entirely rebuilt. Railroad tracks could be laid to them from the Embarcadero.

The stores then remaining on the north side of Washington Street would, under these circumstances, have sufficient front street space. But otherwise they still would not be suitable for efficient handling of bulky, perishable food products. Floors would remain at sidewalk level, and there would be no loading platforms. Oregon Street is too narrow for full utilization of loading and unloading operations at the back ends of the stores. Rail connections might be laid in Oregon Street to furnish direct delivery from cars, but to provide really efficient facilities, the present structures would have to be largely rebuilt.

Such a program to improve the present market district would permit partial utilization of the buildings along one side of Washington Street. But at best it would make a patched-up job. Actually most of the buildings are so old and dilapidated that to renovate or remodel them would be costly and unsatisfactory. It would probably cost but little more, and would be far more satisfactory to take them out completely, and build the type of structures best adapted to the produce business -- large rectangular platforms with sufficient cover for protection from sun and rain.

If a new market is developed in this area, the present inadequate, unsanitary, and dilapidated structures should be cleared away, and a completely new market constructed. For such a possibility, this district will be compared with other feasible locations in the city, from the standpoint of the fundamental requirements for a wholesale fruit and vegetable market.

SUITABLE LOCATIONS FOR A NEW MARKET IN SAN FRANCISCO

Size of the Market Site

Figure 12 illustrates an arrangement of the buildings, streets, railroad tracks, and parking areas which have been indicated in a preceding section of this report to be adequate for a wholesale market in San Francisco. This lay-out of facilities would occupy about 11 acres.

In the selection of a market site, definite provision should be made for possible expansion of the market, to provide either additional store facilities or certain supplementary facilities that may later be found desirable. When new market facilities are developed, they should be limited to immediate requirements, but it is highly important that a new market not be so closely surrounded by other permanent developments or by natural barriers that it cannot be materially expanded if the need arises. In city after city across the United States such situations have occurred. Markets have been outgrown and it has been necessary to build additional facilities in other locations. Many unfavorable conditions and inefficiencies have resulted. Capital investment in buildings not immediately needed should be avoided so far as possible, but capital investment in land not immediately needed will be a very worth-while expenditure as an assurance that future needs can be met. Temporary use can often be made of such extra land to pay for the carrying charges on the investment. These uses might include such enterprises as garages, box factories, lumber yards, coal yards, sand and gravel storage, etc. Any site that is selected should be of sufficient area to provide for the additional or supplementary facilities that might later be needed.

On the basis of these suggested plans, it is probable that no location should be considered which could not provide a minimum of 15 acres (653,000 square feet). To some extent facilities can be arranged to conform to the shape of available tracts. Experience in many markets has proven, however, that the general arrangement of store facilities should be as indicated in figure 12, variations being primarily in size and number of units. The store platforms must be surrounded with adequate streets, but the location of team tracks, parking areas, and any supplementary facilities may be adjusted to the shape of specific locations.

General Areas

Where might a market of this size be located in the city, accessible to all forms of incoming transportation, conveniently located to buyers, and on a suitable tract of land that might be obtained at lowest cost?

Direct railroad connections to the stores are one of the essentials of a wholesale fruit and vegetable market. Under no conditions should a new market be developed in San Francisco without rail connections open to all railroads on equal terms. This limits consideration of possible market locations to the eastern part of the city where the railroad trackage is located.

The market should be conveniently located to the many buyers who visit it daily. A site at the southern edge of the city, for example, would require far more total travel each day by those doing business in the market than would a more central location. The market should be on land that is level, or with only a slight slope. The stores should all be at the same level for convenience in the movement of goods from one part of the market to another, and the hilly sections of San Francisco would be unsuitable.

Fifteen acres, which is estimated as the requirement for a market adequate to serve San Francisco, represents a large use of city land. In the more highly developed business sections of the city, the cost of such a tract would be prohibitive. Relatively low-priced land should be obtained.

Each of these factors of location in San Francisco is discussed later in greater detail. It is readily apparent, however, that because of the geographical and topographical features of the city, only a few sections meet these primary requirements. The following general areas are considered, and comparison is made of the advantages and disadvantages of each:

(1) The Washington Street market district and vicinity.

(2) The district immediately south of the China Basin Channel, bounded by Third, Seventh, and Sixteenth Streets.

(3) The Islais Creek section. This includes several large areas, extending from the Bay and from Twenty-Fourth Street to the Bayshore Boulevard at Alemany Boulevard. It takes in a large part of the Islais Creek Reclamation District and several blocks to the north of Islais Creek both east and west of Third Street.

These three districts are indicated on figure 2. For convenience, they are referred to hereafter as the Market District, the Channel District, and the

Islais Creek Section. With the exception of the Market District, they do not represent specific sites for a market, but only the general areas in which any one of several different sites might be obtained.

Requirements for a Market Location

How do these three areas meet the various location requirements for a wholesale fruit and vegetable market? What are the comparative advantages and disadvantages of each?

Accessibility to Transportation

Highways.-- The greater part of the fruits and vegetables arriving by motortruck come into the city from the south over the Bayshore Highway and Third Street. Most of the remainder comes over the Bay Bridge. The development of major highways and streets probably will make Third Street a primary route, with modifications to avoid the China Basin Channel and to provide for connections with the Bay Bridge and the Embarcadero. Third Street would thus become the major highway connection for motortruck movement and would serve a market in any of the suggested locations. Deliveries to the Market District would encounter more city traffic than deliveries to the other districts, but this would be a factor of little importance.

Railways.-- The Market District is served by the State Belt Railroad, which handles the cars arriving by all railroads on equal terms. Cars are received at interchange points near the south end of the Embarcadero, or at the car slips operated by the Belt, and switched to all yards and industry sidings along the Embarcadero. Interchange from incoming lines to the Belt involves some delay after cars have arrived in the city. This sometimes means that cars arriving during the night are not available for unloading on tracks served by the Belt in time for the market of the following morning. For this reason delivery of cars is sometimes taken in the more distant railroad yards of the incoming lines for quicker accessibility.

The Channel District is now served by the Southern Pacific Railroad and the tracks of the Santa Fe and Western Pacific are closely adjacent. Prompt rail delivery in this area could easily be obtained.

The Islais Creek Section is now traversed by all three railroads. The Santa Fe and Southern Pacific operate joint trackage directly through the area, and one industry siding is operated jointly by all three roads. Precedent is therefore established by which joint operation might be arranged between the three trunk lines for a produce market in either the Islais Creek Section or the Channel District.

Any one of the three locations would be satisfactory from the standpoint of accessibility to rail transportation, although the Market District requires more switching for a majority of incoming rail receipts, and frequently involves delay in placement of cars that might be avoided in either of the other locations.

Competition between railroads for a preferential position in handling perishable traffic has been one of the most disturbing factors in produce markets

throughout the country. Duplicating facilities have been built in many cities, resulting in split markets, disastrous effects to the produce distributive industry, and the waste of millions of dollars in expenditures by the railroads. No such situation should be permitted in San Francisco. A union terminal produce market will be to the advantage of the rail carriers, and the three roads should give united support to such a development.

Waterways.-- Water transportation of these products to San Francisco was formerly of major importance but has now dropped to minor proportions. Some readjustments may come in the immediate future as a result of war limitations on highway equipment, but no probable developments suggest that boat transportation is again likely to become important for the incoming movement of fruits and vegetables. In years past, potatoes from the Delta were mostly brought in by boat, but even for these bulky and semi-perishable products, first the rail lines and then the motortrucks have largely taken the hauling away from the boat lines. This suggests little likelihood that river boats will again acquire a position of importance in the movement of perishables from the San Joaquin and Sacramento valleys, or that sufficient volume will arrive by this mode of transportation to justify giving it much weight in considering a market location.

Other factors being equal, a market might well be built with direct dock connections so that such produce as does arrive by small boats might be placed on these docks. If only small quantities were so placed, however, their display and sale would more likely be made in the regular stores than on these docks. This would mean that they would be hauled from docks to stores, and whether the docks are one block or several blocks from the stores makes little difference in the cost of hauling. Drayage rates in San Francisco, as established by the City Carriers' Tariff issued by the State Railroad Commission, are based upon zones rather than upon length of individual trips. Zone 1 extends from the waterfront as far west as Fillmore Street, and south to Army Street and Evans Avenue. This includes all piers, the Market District, the Channel District, and a large part of the Islais Creek Section. Drayage of fruits and vegetables takes the same rate per package between any points in this zone.

Market receipts of fruits and vegetables from ocean-going vessels will be important, but here again there are limiting factors with respect to possible effect upon location of a produce market. Ocean-going vessels dock at their regular piers for the discharge of all cargoes; they do not move around the port for discharge of certain items at different points. With the exception of boats carrying practically solid cargoes of products destined for the market, it is not probable that any boats would dock at the market for special unloading of such products. Instead, incoming cargoes would be unloaded on the usual commercial piers, and then moved from the piers of the respective boat lines by motortruck. Regardless of the location of the market, supplies from the respective piers would be hauled by motortruck from shipside to the stores in the market, and minor variations in distance would be of small consequence.

Shipments from the market by boat, whether to other parts of the United States, to offshore possessions, or to foreign countries, are likely to be far more important than inshipments. What should be the location of the market in respect to such outgoing movement, assuming that it may come to be of major significance after the war? Consideration of this question should be divided into two classifications: (1) shipments comprising straight boatloads or at least a major part of the cargo; and (2) shipments representing a part of mixed cargoes and ship's supplies.

Relatively few straight cargoes of fruits and none of vegetables have been shipped from the port of San Francisco in times past. The principal fruits exported from the Pacific Coast have been apples, pears, citrus fruits, and grapes. Most of the export varieties of apples and pears are produced in the Northwest. When full boatloads of these have been shipped, loadings were logically made from Puget Sound or Columbia River ports. Similarly, the export types of oranges are largely produced in southern California, and large shipments have been loaded from southern California ports.

It is possible, however, that future conditions of transportation or of export demand will result in a large ocean shipment of fruits and vegetables produced in the San Joaquin, Sacramento, Santa Clara, and other valleys tributary to San Francisco Bay. If such shipments are made, how would they affect the wholesale fruit and vegetable market in San Francisco? The functions of financing, assembly, packaging, storage, and forwarding might be done by firms located in the market and yet physically very little of the products would actually move through the market area. Large shipments would be assembled from the producing areas in straight carlots or truckloads, and these would move directly to shipside, or into the cold-storage warehouses if local storage or precooling were called for. If large quantities are to be loaded on one ship, there is little likelihood that such products will be unloaded in the wholesale produce market and moved from there to the ship.

The servicing of ships and the forwarding of mixed-cargo shipments of fruits and vegetables, on the other hand, may well become of considerable importance to the local wholesale market. A considerable volume of such business was being developed before the war began. Conditions that will grow out of the war are unknown, but future developments in the vast domain of the Pacific may result in San Francisco becoming an important forwarding point for fruits and vegetables. These may move over numerous trade routes, as part of a variety of merchandise moving to ports in many countries. As such, these products would be loaded at the respective piers of the different boat lines operating from the port. Regardless of availability of dock facilities in or adjoining the market area, these boats would not call at the market to pick up fruits and vegetables. Such shipments would be hauled to the respective piers of each boat line. Here again, if the shipment must be moved by motortruck from produce store or repacking shed to shipside, the distance from the market to the piers would have no effect on the amount of the hauling charges if both points were within the same drayage zone.

The market could not actually adjoin any particular pier or set of piers because of the heavy traffic along the waterfront. Shipments to or from any of the piers would then have to be transported by motortruck, at the established drayage rate for the zone. From the standpoint of accessibility to water transportation, the Islais Creek Section is farthest from the piers and would require a longer haul on shipments moving between the market and outgoing or incoming ships, but much of it is in the same drayage zone as the other locations. Other than this factor of length of haul to the piers, there is little difference between the various locations in the matter of accessibility to water transportation.

Convenience to Buyers

Fruits and vegetables are used where people live, and the major part of the final retail distribution is made in the residential sections of the city.

When consideration is given to the quantities used in eating places in the business district, and sold to downtown shoppers, the center of distribution for all the fruits and vegetables used in San Francisco would be in the upper Market Street section (fig. 2). A market location at the shortest average distance for buyers would be in that part of the city, but such a location would not be feasible because of high property values. The sections of the city in which locations are feasible, however, are not far distant. Of the three, the Channel District is more centrally located and is easily accessible to buyers. The Market District and Islais Creek are about equally distant from a central point. From the Market District the majority of buyers would encounter more traffic delay at the time they made the return trip from the market than from the other locations.

Convenience to buyers from outside the city would be primarily a matter of arterial street connections from the incoming highways. The same conditions that apply to incoming motortruck movement over the main Peninsula routes or over the two bridges would apply equally to out-of-town buyers coming to the market. The areas south of Market Street are most conveniently located in relation to the Peninsula routes and the Bay Bridge. The relatively few buyers arriving over the Golden Gate Bridge would have a somewhat greater distance to travel to these areas, but this travel would be on main arterial streets to within a short distance of any probable market location.

Cost of Land

The minimum requirement in land area estimated for a market adequate to serve San Francisco has been estimated as 15 acres, or 653,000 square feet. As city properties go, this represents a large use of land. But as has been repeatedly emphasized, adequate size is a prime requisite of an adequate and efficient market. Lack of space is perhaps the worst single feature in the present market. When any modernization of the market is accomplished, it should be along lines that will be fully in keeping with the city's growth and importance. The possibility of further growth should be provided for by obtaining in the initial development enough land for expansion. No compromise should be made in this fundamental requirement of ground space. Inasmuch as such a relatively large tract is involved, differences in land values will have much to do with the total cost of developing a market.

It is assumed that if a tract of around 15 acres is acquired for a market site, the use of the streets within the tract would accompany the ownership of such property and purchase would be made only of the areas within property lines. The proportions of any given area in streets and within property lines depend upon the relation between size of city blocks and width of streets. In general, about two-thirds of city lands lie within the property lines, and the remaining third in streets. Under such conditions, the use of about 15 acres of total land area should be acquired by the actual purchase of 10 acres. The nature and extent of the use that could be made of the street area would depend, however, upon whether the streets could be closed by the city, or whether they would have to remain open to the public. The long-established use of streets in a developed or generally traveled section of the city cannot be terminated merely because of transfer of ownership of the adjoining properties. In undeveloped tracts that are acquired for industrial purposes, it is customary to have the streets closed.

Islais Creek and Channel Districts

In the Islais Creek and Channel Districts are several undeveloped tracts of more than 15 acres in extent where the property might be acquired for around 75 cents per square foot. Assuming that the properties comprise two-thirds of the tract and the remainder is in streets, the total purchase price would average 50 cents per square foot of the entire tract.

Most of these locations are on made land, in which piling would be required. Although piling is essentially a building cost, it must be added to the cost of land in comparing the total cost of different sites. That is, in comparing the cost of an area which would require piling with one which would not, the cost of piling must be included.

The amount and cost of piling would vary according to conditions in particular locations. On the basis of pre-war cost figures, engineers have estimated that for a one-story, freight-station type of building on a concrete platform, the cost of piling might run from 50 to 75 cents per square foot of building. In a produce market with adequate streets, parking space, and railroad team tracks, the store structures would cover one fourth to one third of the total market area. Assuming that buildings cover one third of the total market district and that the piling amounted to 75 cents per square foot of building, the cost of piling under these buildings would represent an added land value of 25 cents per square foot for the total area.

Piling would probably be necessary in most of the undeveloped tracts in the sections near the Bay. Assuming that the use of a 15-acre tract could be acquired at a cost averaging 50 cents per square foot, the additional 25 cents per square foot for piling would make the total cost of the site about 75 cents per square foot. The entire 653,000 square feet (15 acres) would then cost approximately $500,000, including piling. In any of these locations, it is probable that streets could be closed, so the entire market area could be fenced in and developed as a single unit.

Market District

The cost of acquiring a tract of 653,000 square feet in the present Market District is difficult to estimate. Nearly six city blocks would be required. All blocks in the area are almost completely built up. The buildings are of many types and sizes, and in all stages of repair from good to very poor. Properties have an extremely wide range in value, and are in a large number of ownerships. Costs of acquisition would add materially to the purchase prices.

For the purpose of this survey, a special preliminary appraisal of the district was made by a competent authority in the field of property evaluation in San Francisco. The six-block area covered by the appraisal includes the four blocks in which most of the wholesale fruit and vegetable stores are located (bounded by Front, Jackson, Drumm, and Clay Streets) and portions of adjoining blocks. The latter were selected to take in only the smaller and less expensive buildings in adjoining blocks, and do not include any of the larger buildings in the Market District.

The appraisal indicated that the total cost of acquiring the site would be about $2,100,000. This includes the value of land and buildings, the

estimated costs of final appraisal, negotiating expenses, title insurance fees, escrow charges, and office and administrative expense. This figure is a preliminary one, and is intended to be only an approximation. But it does represent a detailed analysis of the probable costs of acquiring a site for the development of a complete and adequate market in this section of the city.

It is assumed that the salvage value of the present buildings would be sufficient to cover the costs of their removal. This might not be true for some individual structures, but probably would apply to the area as a whole.

In the Market District the streets could not be closed, for by long use the general public has established claim to them. They are heavily traveled, and in this busy commercial section of the city any effort to have them closed would be opposed by the business interests and property owners in adjoining blocks. Therefore a site in this district could not be developed as a single unit but would have to conform to the existing street pattern. If the streets could not be closed, then the market could not be enclosed with fences and gates and would have to be open to the general public at all hours of the day and night.

Comparative Advantages and Disadvantages of Each Area

Rail deliveries to the Market District involve switching delays that would be at least partly eliminated in the other districts. The Islais Creek Section involves a longer haul to and from the boat piers, but much of it is in the same drayage zone as the other locations. Highway connections are about the same. Transportation would be generally satisfactory in any of the areas under consideration.

The Channel District is located nearest the center of the city, and is easily accessible to buyers. From the Market District the majority of buyers would encounter more traffic delay at the time they return from market than from the other locations. From the standpoint of convenience to buyers, however, there is not any great difference between the three areas.

The principal difference between the three areas is in the cost of a site. Fifteen acres is a large use of city land and, because such a large tract is involved, the difference in land values would have much to do with the total cost of developing a market. In the Islais Creek and Channel Districts are undeveloped tracts in which the use of 15 acres could be acquired for around $500,000, including the piling that might be necessary. An appraisal of the Market District has indicated that there the total cost of acquisition of a similar tract would be $2,100,000. As indicated later, this would more than double the annual charges for operation and amortization of the same type and size of market in that location.

Alternative Uses for the Washington Street Market District

What would be the alternative uses for the present Washington Street market district, if a new market were developed elsewhere? It must be assumed that if a new market were developed, the entire market operations would be moved to that location, and that no part would remain in the present district. Anything less would result in a split market, and experience in other cities has demonstrated that this invariably has disastrous consequences to many of the interests concerned.

With the produce business entirely removed, disposal and utilization of these properties would be far different from an attempt to sell single pieces of property under present conditions. Ohter businesses or industries are not now willing to locate in the market area because of traffic congestion and other unfavorable factors. This, in large part, accounts for the fact that many buildings on the edge of the market are now vacant, or are bringing very low returns. But if the whole Market District, comprising parts of several blocks, could be made available for unified development by any type or groups of industries, it would offer more attractive possibilities. Properties in adjoining blocks are now occupied by a variety of light industries, wholesale houses, distributing agencies, and the like, many of which require large areas of floor or storage space.

The alternative uses probably would not yield so large an income as the rentals now being obtained for the fruit and vegetable stores. The present high rentals are collected from the city's perishable food industry because of the monopoly value of location that is controlled by a small group of property owners in the market. The owners have all had these properties for a long period of time. During many years they have received high returns on their investments, with very little expenditure for maintenance or repairs. Most of the properties have repaid to their present owners far more than is invested in them. The owners would naturally be unwilling to have the market operations moved into other facilities, and may be expected to oppose any such action.

The interests of the entire consuming population of San Francisco and its environs, and of a great section of California's agriculture, call for an adequate and efficient wholesale fruit and vegetable market in this central port city. The present Market District is inadequate and unsanitary, and its operations costly. It should not be perpetuated in the decadent quarters in which it has long been housed, merely to maintain inflated rental values on these properties.

ESTIMATED TOTAL COST OF A NEW MARKET

Facilities

The cost of construction of new market facilities for San Francisco has been estimated at approximately $650,000, on the basis of pre-war figures (p.43). This includes buildings, paving, railroad tracks, utilities, and fencing. It does not include cost of any piling that may be necessary, that having been considered a part of the cost of land. Building costs would vary on different sites, but in general this would represent the approximate cost of the facilities in any feasible location in the city.

Land

The cost of a 15-acre tract in some part of the Islais Creek or Channel Districts, including the piling that might be needed under the store buildings of the market, has been estimated at approximately $500,000.

A special appraisal of the probable cost of acquiring a tract of similar size in and around the present Market District indicated that the cost there would be about $2,100,000.

Total Cost of Land and Facilities

Islais Creek or Channel District:	Land	$ 500,000
	Facilities	650,000
	Total	$1,150,000
Market District:	Land	$,100,000
	Facilities	650,000
	Total	$2,750,000

Annual Operating Expenses

If the cost of the market were financed at an interest rate of 4 percent, the total cost might be amortized in 25 years by annual payments of about 6.4 cents on each dollar of cost. It is assumed that the tax rate may be equivalent to 2 1/4 percent of the total cost of the project. Administration, insurance, and upkeep of the market might total about $20,000 per year. The total annual operating expenses of a market would then be as follows:

Market District

Amortization ($2,750,000 in 25 years at 4 percent)	$176,000	
Taxes (equivalent to 2 1/4 percent of cost)	62,000	
Administration, insurance, upkeep and miscellaneous	20,000	
Total		$258,000

Islais Creek or Channel District

Amortization ($1,150,000 in 25 years at 4 percent)	$ 74,000	
Taxes (equivalent to 2 1/4 percent of cost)	26,000	
Administration, insurance, upkeep and miscellaneous	20,000	
Total		$120,000
Difference in annual operating expense		$138,000

Both original cost and annual operating expense of the same type and size of market would amount to more than twice as much in the Market District as in one of the undeveloped industrial sections of the city that would be equally satisfactory in other respects. A new market should be built in San Francisco in the location where the greatest reductions can be made in the cost of distributing the city's food supplies. A complete and adequate market could be built on a low-cost but well-situated tract of land for about $1,150,000, at pre-war construction costs.

In the following section, estimates are presented of the savings that might be made in such a market, compared with the cost of operations in the present market district.

ESTIMATED SAVINGS IN A NEW MARKET

The principal justification for reorganizing or rebuilding a market is that such a change would cut the costs of distribution and lessen the losses

of food. How would the operating conditions and costs in a market of the type that has been described compare with those in the present market?

There would be five major sources of savings in an adequate and efficient market, as compared with present facilities. These would be:

(1) Savings in rentals of wholesale stores.
(2) Savings in hauling rail receipts from team tracks to stores.
(3) Savings in handling costs in receiving, stocking, and delivery of supplies.
(4) Savings in time of buyers and truck drivers.
(5) Reduction in loss and deterioration of perishable products.

Savings in Rentals of Wholesale Stores

Sources of Revenue in a New Market

The annual operating expenses of a new market have been estimated at $120,000. The revenue to pay these charges would be derived from the stores, the second floor space, and from supplemental facilities or enterprises that might be established. Thus it is probable that temporary uses could be found for that part of the market site that is acquired as an area for expansion, at least sufficient to pay its carrying charges until it is needed for market purposes. Such use might yield a net annual return of $5,000.

The estimates of construction costs include a second floor over one-half of the enclosed section of the group of larger stores. This floor would measure 300 x 60 feet, or 18,000 square feet. The actual area of space needed by brokers, shippers, transportation representatives, restaurants, and other enterprises would have to be determined, but this seems to be about in line with probable requirements. Allowing for corridors, partitions, washrooms, etc., around 15,000 square feet of the second floor would be available for rental. Space now occupied by such agencies in buildings in or near the market district has an average rental of around $1 per square foot per year. Assuming that rental rates in the vicinity of the new market location might be lower, the gross rental from the second floor of the market might be $12,000 per year. This income would include the rental of restaurant space, as well as the offices of produce firms and other interests directly associated with the business of the market.

The revenue from the second floor and from other temporary or miscellaneous uses might thus total $17,000 per year. This sum applied to the annual operating expenditures of $120,000 would leave $103,000 to be paid by the produce stores.

The total platform store area of the market has been calculated at 108,000 square feet. A revenue of $103,000 assessed against the stores would represent an average annual charge of 95 cents per square foot for the entire platform area. This would include the use of the complete facility, from the edge of the front walk to the edge of the loading platform at the back, and also the mezzanine office.

A 25-foot store unit on the larger platform, with 100 feet of over-all length, would have 2,500 square feet of total store area. At an average annual

charge of 95 cents per square foot, the payment for the store unit would amount approximately to $2,400 per year, or $200 per month. A unit of the same width on the 80-foot platform would have 2,000 square feet of total floor area, for which the average charge would be $1,900 per year, or about $160 per month. As previously mentioned, individual dealers might occupy more than one unit, or only a part of a single unit, in accordance with size of business and space requirements.

Comparison with Store Rentals in the Present Washington Street Market District

In 1942, when this survey was made, the total rental and use value of all the wholesale fruit and vegetable stores in the Washington Street market district amounted to $202,596 per year. These rentals include some basements and upper floors, but are primarily for the ground-floor space. This sum does not include the rentals from offices of produce firms or other enterprises associated with the market. Neither does it include rentals of any of the eating places in the district. It represents only the rental of the fruit and vegetable store facilities.

In a new platform type of market, it is estimated that $103,000 per year would cover operating charges, and interest on outstanding indebtedness, and in 25 years would pay the entire cost of construction. This would represent a saving in rental charges of approximately $100,000 per year, for wholesale fruit and vegetable stores.

This saving in charges for use of facilities would result primarily from design and arrangement and more efficient use of space rather than in a lower cost for the same area. As listed in table 2 in the first section of this report, the average annual rent for all produce stores in the market district amounts to $1.02 per square foot. Stores on Washington Street average $1.31, and the stores off Washington Street $0.54 per square foot. However, in comparison with the platform type of store facility the sidewalk area in front of present stores should be included, because the dimensions and rental charges for the platform stores include the wide sales arcade in front and the loading platform at the back.

As listed in table 2, the first-floor store area in the market district totals 198,698 square feet, the sidewalk space along the front and sides of these stores 39,583 square feet, and the combined total is 238,281 square feet. For this combined store and sidewalk area the annual rental averages $0.85 per square foot for the entire market, $1.07 for the stores on Washington Street, and $0.46 for the stores off Washington Street.

A large portion of the floor space in the present market is little used. In a store arrangement with both front and back platforms on wide streets, and with a reasonably good adjustment between store area and volume of merchandise handled, space could be used much more efficiently. Each day's distribution of the total handled through the market could be made faster and with less cost in new platform-type facilities with 108,000 square feet than in the much greater but poorly arranged and only partially used space in the combined store-and-sidewalk area of the present market. Instead of the rental rate of $202,596 for the present stores fronting on narrow streets, a yearly charge of $103,000 would operate and amortize the new store facilities. About $100,000 could be

saved each year in the costs which the dealers, and indirectly the producers and consumers, pay for the occupancy of present stores.

Savings in Hauling from Railroad Cars to Stores

There are no direct rail connections to any of the stores in the Washington Street market district, and all rail supplies sold through the stores must be hauled from team tracks. In a new market with track connections at all stores, most rail receipts would be unloaded directly into the stores. Occasional carloads or parts of carloads might still be hauled from team tracks, but of the total rail receipts these would make up a very small part, judging by the experience in markets which do have direct rail deliveries.

Total rail receipts of fruits and vegetables in San Francisco have in recent years ranged between 5,000 and 6,000 carloads, and have averaged around 5,500. Some of these are received and unloaded at chain-store warehouses, cold storages, piers, banana-ripening houses, etc. A considerable number of cars of potatoes, onions, and a few other products are repacked at car door on team tracks for boat shipment, and hauled directly to shipside. Some deliveries are taken direct from railroad cars to the buyers. It has been estimated that of a volume of 5,500 carloads per year, about 1,500 carloads are handled through these channels, and 4,000 carloads are hauled from the team tracks to stores in the market.

The drayage cost per carlot varies widely, according to commodity, and by type and size of package. For a few products the cost is as high as $40 per carload, and for others as low as $20. The average hauling charge, based upon cost and number of carloads of each commodity, is about $26 per car. At this rate, the total annual bill for moving 4,000 carloads from railhead to the market is $104,000.

In a market with railroad tracks at the stores, there will still be some hauling from team tracks, and some hauling by motortruck from one store to another as sales are made between dealers. It has been estimated that this would not amount to more than 20 percent of the present hauling, and that fully 80 percent of the annual hauling charge would be saved. On the above estimates of volume moved, this saving would total about $83,000 per year in a market with direct rail connections.

Savings in Handling in the Market

One of the most noticeable features of the present market is the immense amount of handling and porterage required to move each day's supplies through the market from the incoming motortruck to the outgoing vehicles of the buyers. There are no unloading platforms at truck-bed height, and all products must be set off on the sidewalks or in the streets, then moved by small two-wheeled hand trucks to the places where they are stacked and stored for the day's selling operations.

Because of the narrow streets and congestion of traffic, very few of the buyers have attempted to drive to the stores to pick up their merchandise. Most of them leave their trucks parked and have their purchases delivered from

the stores by hand truck. Scores of these loaded trucks are pushed along the walks and through the streets of the district, moving the foodstuffs to the waiting motortrucks.

The proposed type of new market would have loading and unloading platforms at both front and rear of stores, and streets of sufficient width for right-angle parking at these platforms. Five or six trucks could load at the same time at the combined front-and-back platform space of each 25-foot store unit. With parking areas at convenient places throughout the market for all idle or waiting vehicles, and with traffic regulations to prevent such idle vehicles from standing at the platforms, buyers would have ample opportunity to pick up their merchandise from the store platforms.

Many other economies could be effected in the handling of the heavy and bulky products. Many types of four-wheeled, flat platform trucks would be employed, to move larger loads with less time and effort than on the two-wheeled hand trucks that must be used over the sidewalks and through the streets of the present market. Platform trucks with a lifting mechanism could be used with movable floor racks, and the produce loaded on these racks at car door or truck tailboard could be moved freely without any further rehandling until delivered to the buyers.

The total porterage bill in the entire Washington Street market district amounts to more than $600,000 per year, at the wage rates and the number of porters employed during 1942. The 21,000 carloads handled through the market during a year represent approximately 10,500,000 packages, so the total amount paid for porterage amounts to about 6 cents per package, average for the entire market operations. Estimates made by dealers in the market indicate that in a modern platform-type of market with ample space and equipment for receipt, handling, and delivery, these costs could be reduced about one-third. On the average for all market operations, this would represent a saving of 2 cents per package, or $10 per carload. The total saving on the 21,000 carloads handled through the market each year would amount to $210,000.

Savings in Time of Buyers and Truck Drivers

Much time is lost in the Washington Street market district by motortrucks and drivers waiting to get loaded or unloaded. After buying has been completed, retailers and other buyers have continual difficulty and delay in having their purchases of several products at different stores brought to their trucks. At 8:00 a.m. time is valuable to a retailer, when he should be getting his load into his own store and ready for his customers.

Incoming truck drivers are also delayed in getting to the stores to make deliveries, because of inadequate unloading space at individual stores and because of traffic congestion. Big motortrucks often lose several hours standing and waiting to be unloaded, before they can be on their way to transport other merchandise. Directly or indirectly, producers and consumers must ultimately pay the bill in higher costs of the services rendered.

On the average, about 200 motortrucks bring loads of fruits and vegetables from producing districts to the market each business day, and more than 600 buyers come daily. The delays that are encountered vary greatly among these 800 vehicles, but a conservative estimate would be an average of 20 minutes each, due to lack of parking and loading space. The total time lost would be 265 hours per day, and at 300 business days per year, 80,000 hours per year.

Considering the time of truck and driver worth $1.50 per hour, the value of time lost would be $120,000 per year.

Reduction in Loss from Deterioration and Spoilage

An item that must be considered in the marketing of fresh fruits and vegetables is the loss from deterioration and spoilage. Under normal conditions the larger part of this loss shows up after the products reach the retail stores. Even though it does not show up until then, however, it reflects in part the treatment that these perishables have previously received. The percentage of loss varies widely, particularly between commodities. Several studies that have been made, by governmental and retail agencies, have indicated that an average of spoilage losses during the retailing operation may be around 7 percent of the retail sale value. At usual price levels this would represent an average monetary loss of $75 to $90 per carload.

How much of this loss is attributable to damage, bruising, or exposure that takes place as the produce moves through the wholesale market? This is most difficult to determine with accuracy, but any thoughtful observer of present market operations in San Francisco realizes that considerable damage does occur. Unloading from motortrucks to sidewalks or streets is conducive to dropping and heavy handling which results in bruising. The jolting on hand trucks through the streets, with frequent dropping of packages that slip off the two-wheeled trucks, is probably the cause of the greatest total amount of injury. The observer may well wonder what is the depreciation, both in final sale value and in food value, of a box of fruit that has fallen to the pavement with force sufficient to break the package.

Some damage would occur in any market, even with the best of facilities, but the less handling that is necessary the less is the likelihood of damage from dropping, jolting, and exposure. Obviously, considerable damage does result directly from the handling operations in the Washington Street market district. On soft fruits and tender vegetables, it is often excessive. A conservative estimate of the damage that is directly due to the lack of adequate facilities and proper handling is 2 cents per package, or $10 per carload, as an average for all commodities. On the 21,000 carloads handled through the market each year, this represents a loss of $210,000 between producers and consumers, that might be saved through proper handling facilities.

Most of this loss does not show up while the products are in the market, and the wholesale dealer may be little concerned about it. The retailer is also inclined to accept it as one of the conditions of his business, and on the products where it is noticeable he attempts to pass it along to the consumer in higher prices for the merchantable portion. It is a loss that occurs, however, day after day and week after week. It represents not only a monetary cost in marketing, but a definite loss in the food supply that has been produced and brought to the city. It is a loss that cannot be measured entirely by the shrinkage in weight or volume of the edible portion of these products, for studies have indicated that the full nutritional value and benefit of these protective foods is influenced by their condition and freshness.

Summary of Savings in a New Market

In summary, the following savings in the cost of moving San Francisco's yearly supplies of fresh fruits and vegetables through the present inadequate and unsuitable facilities might be made in a new, well-planned, and adequate wholesale market:

Savings in:

Rentals of wholesale stores	$100,000
Hauling from railroad cars	83,000
Handling in the market	210,000
Time of buyers and truck drivers	120,000
Loss from deterioration and spoilage	210,000
Total annual savings	$723,000

These savings would be widely distributed. In considerable part they would be passed along to consumers and to producers, but they would be shared by many groups. Some of the savings can be calculated specifically; others are intangible and can be represented only by general estimates. With an initial expenditure that should not exceed one and one quarter million dollars, a good wholesale market could save nearly three quarters of a million dollars each year in the cost of food distribution.

KIND OF MANAGEMENT AND REGULATIONS NEEDED

Management

In the previous discussion of the essentials of a good market it was pointed out that regardless of how carefully a market has been designed, how efficiently it has been laid out and equipped, and how well it is located, its success will depend in no small degree on the character of its management. The supervision of operations, enforcement of regulations, and maintenance of good relations among all the interests using the market would be a large undertaking. To be successful, a market must be managed as well as any other business of comparable importance.

Many groups have genuine concern in the type of management that is placed in control of a wholesale fruit and vegetable market. Growers are concerned because such a market is an outlet for the products which they have produced, and because the trade practices in such a market have a definite effect on the returns they receive for their products. Transportation agencies have much to gain through the satisfactory operation of a good market because that makes it possible for them to deliver efficiently the supplies they are hauling. Each transportation company has a further interest in being assured that the management will not tolerate any discrimination against it in favor of some other company or type of transportation.

No one group is more concerned with the type of management of a market facility than the dealers who are earning their livelihood by carrying on their business operations within it. These dealers are interested in having efficient facilities at a minimum cost. They also want to be as unhampered as possible in exercising their initiative in the merchandising of their products. Retailers

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and other buyers who come to the market want it to be so operated that they can obtain with a minimum of time and expense a complete line of fruits and vegetables. They want the produce to be so displayed and the rules and regulations so established that they can be reasonably sure of the quality and condition of the products they are getting, and the correctness of the prices they are paying. Consumers have a rather large stake in any market that handles their food supplies. Their principal interest is to obtain the foods they need in as good condition as possible without having any unnecessary charges saddled upon them.

The management of a market, then, has a very real responsibility in making that part of the marketing system serve in the best way possible in the process of bringing the food supplies from the thousands of farms where they are produced to the million or more consumers in the area.

But the management's responsibility does not rest solely on the distribution of the products. Another group is vitally concerned with its success -- the investors who have put their funds into the market facility. Such funds are usually advanced as a sound business loan, and although the people who furnish the capital have no right to expect exorbitant returns, they do have a right to expect the market to be so operated that they can be assured of the safety of their investment and reasonable earnings on it.

It is the duty of the management to see that the proper facilities are provided for meeting the needs of efficient distribution and that these facilities are improved from time to time to meet changing conditions. It is a function of the management to see that the charges for the use of these facilities are properly assessed, that the total charges collected are sufficient to meet the needs of the market and keep it operating on a sound basis, but at the same time are not so large as to create a surplus that might be diverted to nonmarket uses. The assessment and collection of market charges are important tasks.

In order that all interests may be protected, it would be desirable to have the market controlled by a managerial board composed of representatives of the various groups who are most concerned in its successful operation. The management should be familiar with marketing problems, honest in dealing with them, and capable of working out farsighted plans for marketing efficiency. It should be able to run a public market in as businesslike a way as any other large corporation. It should be familiar not only with distribution problems, but also with finance, real estate operations, various governmental regulations, and many other fields of activity which are important to the success of a market.

Regulations

The management should constantly be on the alert to further the interests of the market in anything that relates to the best handling of supplies. It should give no small attention to cooperating with the various elements of the industry in formulating desirable regulations for the common good, and assisting in their enforcement.

In the fruit and vegetable industry Federal laws deal with honesty of business operations, standard containers, standardization, grading, and inspection. Cities have regulations dealing with sanitation, traffic, weights and measures, and they provide police and fire protection. The trade itself has been active in promulgating and enforcing some regulations such as those dealing with the extension of credit. But in almost all large city markets there

seems to be a very definite feeling on the part of the trade that some additional regulations are needed, which have not been provided by any agency of government and which the trade itself has been unable to enforce. One of the most common of these deals with hours of selling. The management of an organized market, by assisting in the enforcement of such regulations, can bridge the gap between cooperative regulations of the trade and Government regulations.

There are two strong reasons why selling hours in a market should be limited. The first is that long selling periods require hiring workers for a great deal of overtime, or hiring additional labor, which increases the cost of operation within the market. The dealers themselves also must work an excessive number of hours. A second reason is that unnecessarily long hours of selling tend to disrupt the normal operations of the price-making forces within the market by spreading out the demand rather than concentrating it within a short trading period. This leads to unnecessarily wide price fluctuations and to price uncertainty. If a market such as that described above is provided in San Francisco in an area where it can be enclosed with a fence, the market management in cooperation with the trade might decide what selling hours would be most satisfactory and then, through use of the fence and gates, enforce these regulations in a way that would be to the best interest of the industry.

Another way in which the management of a unified market could assist the industry would be in regulating the arrival of motortruck receipts. One of the problems in the market is the arrival of motortruck supplies at any time during the day or night, and the resulting uncertainty regarding total volume available. Prices established on the supply that is visible at the opening of trading may be entirely out of line by 8:00 a.m., if numerous trucks have arrived in the meantime. Because of this uncertainty buyers often delay their purchases, causing a slow and draggy market which is in itself a disturbing influence on prices. If early commitments have been made and then prices are forced downward by the arrival of additional supplies, the early buyers have paid too much for their goods and are likely to demand adjustments or refuse to take their purchases. On the other hand, arrivals may be lighter than anticipated and prices may advance. Then the dealers who made early sales may not have obtained full market prices for their products.

In a good market the supplies available for a given morning's business should be definitely known before selling begins, and the demand should be focused into a definite selling period. This organization of supply and demand is necessary if the price-making forces in any market are to operate properly.

Information on the volume of motortruck receipts could be made available more quickly if the market were so regulated that there were definite hours of admittance of incoming supplies. A dead line might be established shortly before selling is to begin, after which incoming loads would not be admitted for a certain number of hours, or would be admitted only by paying a fine large enough to discourage late arrival.

Objection might be raised on the grounds that trucks cannot avoid being late. During the present emergency this is often true. Under normal conditions it would be true to a small extent because of breakdowns or other delays, but in nearly all cases truckers could arrive at a market by a given hour if they knew they had to be there to get in, or would be penalized. Truckers know their running time and could plan their departure from shipping points accordingly if there were a genuine incentive to do so. This view is supported by

findings of the Farm Credit Administration in a study 9/ which covered more than 123,000 trips to market by trucks bringing produce to large eastern markets over a period of a year. This study showed that on only about one half of 1 percent of the trips did the trucks arrive at the market later than was planned. Therefore, it seems safe to assume that, under normal operating conditions, nearly all truckers bringing produce to the San Francisco market can arrive before a prescribed hour if they try. Trucks that are engaged in the business of transportation should be expected to put their supplies on the market in time for the day's sale, just as the railroads are, and to the same extent should be held responsible if they fail to do so.

The entrance of incoming truckloads could be limited to certain gateways and at these points it would be possible to collect complete information on the volume of receipts of each commodity. The report showing total quantity of supplies for each day's market could then be released shortly after the dead line.

There is always a tendency for some classes of truckers and small dealers to attempt to set themselves up in business on the edges or outskirts of a market area, where they can reap some of the benefits of location near the market without contributing to its support or being subject to its regulations. To such groups, or at such locations, might be added truckers who had arrived too late for the regular market, or those who for various reasons might be unwilling to conform to the hours of selling or to other rules and regulations of the market administration. The most effective method of preventing the establishment of such unregulated and disturbing enterprises probably would be their prohibition outside the prescribed market area by municipal ordinance, and enforcement of such ordinance by cooperation between the city authorities and the market management.

If important groups or large numbers of truckers should consider that the regulations in the market were too strict, or otherwise objectionable, they might establish a separate market at some other location in the city. In this, as in other respects, the success of the market would depend upon fair and equitable administration by the management and upon its ability to reconcile the conflicting views and interests of different groups and individuals who might use the market.

The regulations pointed out above are illustrations of the assistance that good management of a market can render the industry. Perhaps few other regulations would be needed at first. But there would be some value in knowing that if in the future the needs of the industry should indicate that some type of regulation is desirable, the agency exists for enforcing it.

If a unified market is provided whose management can enforce desirable regulations, some of the problems that have been causing concern to the trade can be solved. Regulations that the market management may enforce may include those for which the need has not become general enough to require legislative action and those for which there has been some delay in getting desirable

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9/ Rasmussen, M. P. Use of Motortrucks in Marketing Fruits and Vegetables. U. S. Farm Credit Admin., Coop. Div., Bul. 18, 120p., 1937. p. 32.

legislation enacted. This ability to have the individual market regulated in accordance with its peculiar needs, rather than conform to additional general legislation, would offer a flexible type of control which could be a valuable adjunct to the efficient operation of any particular market.

BY WHOM SHOULD A MARKET BE BUILT?

After a plan has been developed for improving the market, the next question that arises is how to put this plan into effect. A report like this is of little value unless it is followed by concrete action. The plans outlined in the previous pages can be accomplished if the people most concerned really want to do something about it. The agencies making this study have reached the end of their authority when they have studied the situation and pointed out the possibilities for a proper improvement program. Some other agency must take the initiative in accomplishing results.

The improvement of the market in San Francisco is a matter of concern to many growers, to the wholesalers and retailers, and to consumers over a wide territory, as well as to railroad companies, trucking companies, financial institutions, property owners, industries allied with the distribution of fruits and vegetables, and several agencies of government. With so many and such varied interests involved, and a large expenditure of funds required, most individuals must take the marketing system as they find it, regardless of their convictions as to the need for improvement. The described changes call for group action and that is difficult to achieve.

The first question that arises when attention is turned to the possibility of constructing a new market is, "By whom should it be financed and controlled?" In most cases, markets have been established by whatever agency has been ready and willing to advance the funds, and as a general rule the agency was willing to advance funds only because the provision of these facilities would give it a definite advantage in competition with others, or a large income on the investment. The agency advancing the funds has usually dictated the important features of the market operation. Such dictation naturally has not always been for the interest of the produce industry as a whole, nor for the general welfare. Hence, it may be said that market facilities should not be financed by any agency that will thereby be in a position to dictate and enforce arbitrary regulations designed in the interest of special groups rather than for improving market efficiency.

In short, any new market that may be built in San Francisco for handling fruits and vegetables, from the viewpoint of the ideal, should not be controlled by any restricted group of dealers, by a particular organization of farmers, by railroads, or by any individual promoter. If the provision and financing of the facilities could be separated from control of operations and if exorbitant rents would not be charged, it would make little difference who did the actual financing and construction. But in practice it has been difficult, if not impossible, to bring about this separation.

A market of the type that is needed in San Francisco will be almost a monopoly so far as facilities go. That is, if the market is successful, dealers and buyers will be obliged to use the facility whether or not they wish to do so. There are several logical consequences. When the market is once established

as a going concern, it will be a safe financial investment -- its income will be steady and dependable. It becomes important that the ownership be prevented from exploiting the industry in a way that a private monopoly would be in a position to do. That is, certain safeguards should be thrown around it, for the market performs a public service.

It would seem reasonable then to conclude that regardless of what agency constructs and finances it, there should be definite assurance that: (1) the market will be properly located, designed, and equipped; (2) duplicating and unnecessary facilities will be prevented; (3) the money will be spent wisely to provide for real needs in order that the increased efficiency will not be offset by high cost of the facility; and (4) the use of the facilities will be controlled in the real interest of the industry and the public.

With these purposes in mind it appears that the market could be built (1) by private enterprise, operating as a private corporation subjected to certain regulations, or (2) by a public corporation set up by local governmental agencies for the specific purpose of establishing and operating the market.

Private Corporation With Certain Regulations

If the market is to be established by a private corporation and if such facilities are to be given a monopoly right or are likely to become a monopoly in the natural course of events, there should be some definite provision to insure that the owners of the facilities will not exact exorbitant rentals, will not impose arbitrary and undesirable regulations,, and that they will keep the facilities in good repair. Without this protection the produce industry and the public are left at the mercy of some organization which may have no interest in either the industry or the public. The market is broadly affected with public interest in a way somewhat similar to grain elevators, public warehouses, stockyards, or even electric power companies.

One way to insure proper protection for both the owners of the facilities on the one hand and the produce industry and the public on the other would be to have those facilities declared public utilities. As this method has not been tried in the fruit and vegetable industry, to appraise its probable success would be difficult. However, it is argued that by such action the owners would be assured that unnecessary competing markets would not be built and the produce industry and the public would be protected against exorbitant rentals, inadequate equipment, and arbitrary regulations. Such a method of establishing a market should not only enable private enterprise to supply better facilities than might otherwise be obtained, but should result in fairer treatment and more consideration for each of the groups interested in the marketing of fruits and vegetables. On the other hand, in the case of other public utilities, it has sometimes been difficult to achieve satisfactory regulation and to effect improvements that are needed to provide for changing conditions. It should be emphasized that the public-utility status, if used, should apply to the use of the facilities only, and should not extend to the actual operations of buying and selling produce.

Public Corporation or Market Authority

A second way by which a market can be established is by a public corporation brought into existence by agencies of government. In general it may

be said that a public corporation of this type, commonly called a Market Authority, should possess about the same powers as those possessed by a private corporation except that it should be run in the interest of public welfare rather than for private gain. In most States private corporations are given charters and are brought into existence under general laws. It seems reasonable to suppose that there could not be any serious objection to one or more governmental agencies passing legislation to set up a public corporation to serve the interests of a large area in the provision of facilities for handling its food. In New York State such corporations have been formed, under which wholesale fruit and vegetable markets have been built and are being operated.

Such a Market Authority should have the following powers: (1) to acquire the land or other real estate that may be necessary for the provision of a market facility, and in this connection have the right of eminent domain; (2) to plan, lease, construct or cause to be constructed, any facilities that are deemed necessary for the successful operation of the wholesale market; (3) to borrow funds in some stated amount from any agency, public or private, from which loans may be available on reasonable terms, pledging as security for these loans the revenues to be derived from the market with the expressed understanding that no obligations incurred by such an authority shall be an obligation of the State, city, or any of the other governmental agencies that may join in the setting up of this authority; (4) to select and employ a capable market manager and such other officials and employees as shall be necessary to administer the affairs of the corporation; (5) to accept grants-in-aid or free work; (6) to lease the facilities to various elements of the fruit and vegetable distributive industry; (7) to sue and be sued; and (8) to dispossess tenants for nonpayment of rent and for habitual failure to abide by regulations. Any other powers that may seem desirable could be given to the Market Authority in the act of the governmental agencies that establish it.

Along with granting the powers to the authority, it might be well to place certain definite limitations upon it. For instance, the authority might be authorized to prevent and denied the right to permit any use of the funds of the market for any purpose other than for the support, necessary expansion, and operation of the market.

Legislation setting up a Market Authority would also deal with such points as how the directors are to be selected, what their term of office shall be, how the rentals and charges shall be fixed, how funds shall be handled, the audit and publication of accounts, and any other requirements that are deemed necessary.

If such an authority is provided, it should be managed by a nonpolitical board which should be empowered to consider proposals made by the trade and others, to conduct such research as is necessary in developing a comprehensive program for market improvement, and to put the program into operation. This board of directors should represent adequately the groups and agencies that are concerned with the San Francisco market, as well as the various interests in the produce industry that are directly involved in its operation.

Such a Market Authority might be set up by the City and County of San Francisco or by joint action by the City and the State.

Advantages of the Market Authority Method

The provision of a market through a Market Authority would have the following advantages over the building of the market by a private corporation or directly by some governmental agency.

(1) A public corporation properly set up and adequately representing the various interests concerned with the market would probably satisfy all the various elements that must be brought together in order to establish and operate a satisfactory market. A number of people are afraid of private ownership of the facility, but at the same time they object to the market being built and operated by some political agency. The authority composed of a nonpolitical board, set up jointly by independent governmental agencies and representation chosen from the industry, seems to be a promising method of meeting these objections.

(2) In financing an undertaking of this type, it is necessary that a considerable part of the total cost be available in cash or its equivalent before the remainder can be financed by loans. The original financing might be accomplished through an appropriation of funds by the governmental agencies setting up the authority, such appropriations representing a secondary lien on the market rather than an outright gift. In financing the remainder, the public corporation would be able to obtain funds in the same way that they could be obtained by private enterprise.

(3) A proposal of this type should be satisfactory to the taxpayers as it does not necessarily place any burden on them. Any loan that might be made would have as security only the revenues to be derived from the market, and so would be repaid by the users of the market rather than by taxpayers, some of whom may not have any particular interest in it.

(4) A public corporation of this type would give the continuing kind of management that is necessary to make any business undertaking a success and that would be necessary if funds are to be borrowed on favorable terms. The corporation would be nonpolitical and nonprofit, with the understanding that none of its revenues could be diverted to other uses.

Unless some private corporation will take the initiative in providing a market and at the same time will subject itself to proper regulations, probably the most practicable and feasible approach to the problem in San Francisco would be the establishment of a public corporation or Market Authority. A committee might be appointed by some local public official or group of officials in cooperation with organizations of producers and distributors, to formulate plans and reach decisions as to what is the best approach to the problem of getting a new market built and in operation. In setting up this committee care should be taken to see that it adequately represents growers, members of the trade, consumers, and any other groups that are concerned. Whenever such a committee, once appointed, is functioning in an effort to bring about the needed market reorganization, the research agencies will gladly cooperate.

POSSIBILITY OF IMMEDIATE MARKET IMPROVEMENT

Should the building of a new wholesale fruit and vegetable market in San Francisco be postponed until after the war, or can an earlier start be made toward its achievement?

The need for new marketing facilities is the more urgent during the present emergency because of the great increase in civilian and military population that is being served, and the need for and scarcity of food. Furthermore, wartime needs for manpower call for every possible effort to increase the efficiency of market operations, and to reduce the great number of man-hours now required to move the hundreds of tons of bulky products through inadequate facilities.

A permanent building program probably should not be attempted until after the war. However, this does not necessarily mean that nothing can be done until then. A start toward the final goal might be made with temporary platforms similar to the fruit and vegetable packing sheds and loading platforms that are universally used at shipping stations in producing sections. These could be built without the piling that would be necessary for concrete platforms in any area of made land near the Bay. They would require a lesser quantity of building materials than permanent structures, and would still provide facilities far more suitable and efficient than the cramped quarters of the present market.

As explained and emphasized in this report, a large area of land is a necessity for a good wholesale fruit and vegetable market. Some 15 acres will be needed. In comparison to land area, the building requirements are meager. No elaborate structures are necessary. The wholesale distribution of these products is essentially a one-floor business. An immense tonnage of perishable foods must be rolled onto this floor and off again within a few hours' time. Two large covered platforms are the principal building needs for a market in San Francisco. Around these platforms must be wide streets and large parking areas to accommodate the hundreds of motor vehicles that bring in and haul away each day's supplies. Land is the largest single requirement.

Suitable locations for such a market are readily available. Whenever an agency is prepared to develop a market, a site might be obtained and temporary platforms of the loading-station type erected to serve until the permanent building program could be launched.

In figure 12 of this report are illustrated the type and arrangement of market facilities that would be suitable and adequate for San Francisco. If temporary platform-stores are to be built they should be of the same dimensions as planned for the permanent structures. They might be started in that part of the site that is designated as the area for future expansion, leaving vacant a corresponding area at the opposite end. When the time comes for construction of the permanent buildings, they could be started from the end then vacant. As successive sections are built, dealers could move from the temporary to the permanent stores with a minimum of disruption to the operations of the market. When finally completed the market would conform to the original plans.

A well-arranged market, even with only temporary platform space, would result in large savings in the daily handling of the city's food supplies as compared with operations in the present Washington Street market district. Nor would these savings be limited only to monetary savings; they would include also

savings in manpower so vitally needed in the war, in the use of transportation equipment, and in the actual food supplies themselves. These savings would soon equal the cost of materials and labor required for construction of the temporary facilities, and thereafter would represent a net gain.

Manpower would be saved not only in the handling of foodstuffs in the market, but also in the hours now wasted by buyers, motortruck drivers, and others because of delays in the movement and delivery of merchandise that are unavoidable in the present facilities and street space.

The region faces a critical shortage of motortruck equipment for the duration. Savings could be made of hundreds of hours of idle time of vital transport equipment, now lost because of delays and congestion in the market area.

Food is becoming scarce. It will be needed in ever greater quantities in San Francisco and its environs, but difficulties of its production and transportation are increasing. No longer should the community tolerate waste and loss of food from inadequate marketing facilities, just because these losses have been so prevalent as to be commonplace in the past. After fruits and vegetables have been grown and harvested, prepared for market and transported to the city, they should be utilized as completely as possible, without unnecessary deterioration and spoilage.

A new market is urgently needed in San Francisco, and should be built as soon as possible. No estimate of the cost of a temporary building program is presented here; neither has an investigation been made of the possibility of getting the materials that would be needed. Such factors are subject to continual change. Decision regarding this type of development would have to be made on the basis of conditions that prevail at the time when some organization is ready to proceed. Its possibility should be given careful consideration, however, by the agencies that are concerned with the costs and the handling conditions under which perishable foods are distributed to this California community.

Table 8.-- Receipts of fruits and vegetables at San Francisco by origin and type of carrier, eleven-year period, 1931-41
(All figures in carloads or carload equivalents, except where indicated as percent)

Year	Boat	Rail	Truck	Total	Percentage of annual unloads	Boat	Rail	Truck	Total	Percentage of annual unloads
	California					Oregon				
1931	1,952	7,581	1/11,016	20,549	81.2	168	576	--	744	2.9
1932	1,677	6,755	1/12,376	20,808	82.7	158	665	--	823	3.3
1933	1,712	4,894	12,697	19,303	83.0	249	301	9	559	2.4
1934	1,487	4,487	14,166	20,140	83.6	179	1,123	8	1,310	5.4
1935	989	4,615	13,963	19,567	79.4	112	1,312	6	1,430	5.8
1936	851	5,242	14,155	20,248	80.3	18	1,357	1	1,376	5.5
1937	484	4,239	14,037	18,760	78.7	12	1,331	11	1,354	5.7
1938	586	3,875	15,207	19,668	82.9	38	1,543	45	1,626	6.9
1939	473	2,921	17,413	20,806	83.4	5	1,438	83	1,526	6.1
1940	348	2,606	17,243	20,197	81.2	2	1,676	90	1,768	7.1
1941	301	2,556	16,974	19,831	79.5	0	1,898	93	1,991	8.0
	Washington					Foreign countries				
1931	1,751	227	--	1,978	7.8	2/919	757	--	1,676	6.6
1932	1,614	177	--	1,791	7.1	876	283	--	1,159	4.6
1933	1,311	142	13	1,466	6.3	841	96	0	937	4.0
1934	911	183	4	1,098	4.6	929	272	0	1,201	5.0
1935	909	272	6	1,187	4.8	1,783	203	2	1,998	8.2
1936	152	357	2	511	2.0	2,083	330	39	2,452	9.7
1937	210	386	0	596	2.5	2,114	294	18	2,426	10.2
1938	58	253	1	312	1.3	1,600	122	4	1,726	7.3
1939	33	317	4	354	1.4	1,562	223	12	1,797	7.2
1940	37	345	21	403	1.6	1,979	75	1	2,054	8.3
1941	4	404	14	422	1.7	1,665	225	6	1,896	7.6

Year	Arizona			Idaho			Florida	Other states			
	Rail	Truck	Total	Rail	Truck	Total	Rail	Boat	Rail	Truck	Total
1931	110	--	110	121	--	121	14	32	92	--	114
1932	132	--	132	267	--	267	45	32	90	--	122
1933	100	6	106	644	0	644	106	29	112	0	141
1934	129	25	154	41	0	41	70	18	55	0	73
1935	122	66	188	178	0	178	33	15	53	0	68
1936	158	1	159	336	0	336	35	1	109	0	110
1937	213	8	221	285	0	285	61	13	114	0	127
1938	160	23	183	45	4	49	64	17	75	1	93
1939	175	60	235	43	6	49	134	1	44	0	45
1940	112	201	313	54	6	60	41	0	35	1	36
1941	115	138	253	385	29	414	56	0	79	2	81

1/ Including a very few cars from other states.

2/ Foreign countries, boat receipts: mainly Central America, Mexico, and Hawaii. The portions of these boat receipts that were diverted by rail shipment to other cities (consisting mostly of bananas) are not included.

Table 9.-- Origin of motortruck receipts of fruits and vegetables at San Francisco, nine-year period, 1933-41 1/

Origin 2/	1933	1934	1935	1936	1937	1938	1939	1940	1941
	Carload equivalents								
San Francisco Bay district	5,686	6,308	5,923	6,612	6,049	6,213	6,572	5,990	5,104
North S. F. Bay district	198	195	252	266	349	307	303	281	219
Lake-Mendocino-Humboldt	24	47	82	123	100	95	76	80	90
Sacramento Valley	810	651	545	598	516	532	471	446	376
San Joaquin Valley	3,421	4,259	4,074	4,125	4,279	4,386	5,419	5,552	5,879
Monterey-Santa Cruz	1,468	1,460	1,696	1,408	1,553	1,585	1,659	1,623	1,257
San Luis Obispo-Santa Barbara	176	278	389	405	432	452	297	573	722
Los Angeles district	679	653	742	207	322	901	1,748	1,640	1,837
Coachella Valley	2	28	19	3	--	22	131	187	252
Imperial Valley	195	249	156	308	317	516	499	672	929
San Diego	15	38	85	100	120	198	238	199	309
Total California	12,674	14,166	13,963	14,155	14,037	15,207	17,413	17,243	16,974
Arizona	6	25	66	1	8	23	60	201	138
Idaho	0	0	0	0	0	4	6	6	29
Oregon	9	8	6	1	11	45	83	90	93
Washington	13	4	6	2	0	1	4	21	14
Mexico	0	0	2	39	17	4	12	0	0
Other	0	0	0	0	1	1	0	2	8
Total others	28	37	80	43	37	78	165	320	282
Grand total	12,702	14,203	14,043	14,198	14,074	15,285	17,578	17,563	17,256

1/ 1931 and 1932 figures not available by districts of origin.

2/ Classification of California districts is as follows:

(1) San Francisco Bay district: Alameda, Contra Costa, San Francisco, San Mateo, Santa Clara, and San Benito Counties.
(2) North San Francisco Bay district: Marin, Sonoma, and Napa Counties.
(3) Lake-Mendocino-Humboldt Counties.
(4) Sacramento Valley: Siskiyou, Tehama, Butte, Glenn, Colusa, Sutter, Yuba, Sacramento, Placer, El Dorado, Solano, and Yolo Counties.
(5) San Joaquin Valley: San Joaquin, Stanislaus, Tuolumne, Merced, Madera, Fresno, Kings, Tulare, and Kern Counties.
(6) Monterey-Santa Cruz Counties.
(7) San Luis Obispo-Santa Barbara Counties.
(8) Los Angeles local district: Los Angeles, Orange, Ventura, San Bernardino, and Riverside (exclusive of Coachella Valley) Counties.
(9) Coachella Valley.
(10) Imperial Valley.
(11) San Diego County.

Table 10.-- Origin of rail unloads of fruits and vegetables at San Francisco, eleven-year period, 1931-41

Origin	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941
Domestic:											
Arizona	110	132	100	129	122	158	213	160	175	112	115
California	7,581	6,755	4,894	4,497	4,615	5,242	4,239	3,875	2,920	2,606	2,556
Florida	14	45	106	70	33	35	61	64	134	41	56
Idaho	121	267	644	41	178	336	285	45	43	54	385
Massachusetts	12	4	7	7	3	14	15	6	17	15	17
Nevada	22	41	32	39	11	62	50	30	2	10	32
New Mexico	14	11	3	1	1	1	5	1	0	1	1
Oregon	576	665	301	1,123	1,312	1,357	1,331	1,543	1,438	1,676	1,898
Texas	13	16	38	0	19	13	17	21	20	5	3
Utah	6	2	8	2	2	0	12	2	1	0	21
Washington	227	177	142	183	272	357	386	253	317	345	404
Other	16	16	24	6	17	19	14	6	3	3	5
Total domestic	8,712	8,131	6,299	6,098	6,585	7,594	6,628	6,006	5,070	4,868	5,493
Imports:											
Central America	583	101	0	185	6	185	44	10	116	29	--
Mexico	167	177	90	84	196	132	249	112	90	41	--
Other	6	5	6	5	1	10	1	0	17	5	--
Unspecified	0	0	0	0	0	0	0	0	0	0	225
Total imports	757	283	96	274	203	330	294	122	223	75	225
Total rail	9,468	8,414	6,395	6,372	6,788	7,924	6,922	6,128	5,293	4,943	5,718

Table 11.-- Origin of boat unloads of fruits and vegetables at San Francisco, eleven-year period, 1931-41

Origin	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941
California	1,952	1,677	1,712	1,487	989	851	484	586	473	348	301
Massachusetts	32	32	29	18	15	1	13	17	1	0	0
Oregon	168	158	249	179	112	18	12	38	5	2	0
Washington	1,751	1,614	1,311	911	909	152	210	58	33	37	4
Central America 1/	4,510	3,901	3,208	3,164	3,754	3,799	1,768	1,305	1,325	1,682	0
Cuba	1	0	0	6	10	8	6	4	0	0	0
Hawaii 1/	402	318	394	294	353	271	331	290	238	297	0
Mexico 1/	131	84	97	104	27	13	0	0	0	0	0
Other	0	0	0	0	9	0	0	9	0	0	0
Unspecified	0	0	0	0	0	0	0	0	0	0	1,665
Total	8,948	7,793	7,008	6,165	6,178	5,113	2,832	2,308	2,075	2,366	1,970
Banana diversions 1/	4,116	3,436	2,866	2,641	2,370	2,008	--	--	--	--	--
Net	4,832	4,357	4,142	3,524	3,808	3,105	2,832	2,308	2,075	2,366	1,970

1/ Unload figures for 1931-36 include all bananas unloaded at the Port of San Francisco whether distributed locally or shipped elsewhere. Reports of diversions of these unloads, by rail shipment to other cities, were not segregated by country of origin. Since 1936, the unload figures have not included the quantities that were diverted elsewhere by rail shipment.

Table 12.-- Unloads of certain major commodities received at San Francisco 1931-41

Year	Potatoes				Onions		Grapes	Apples	Citrus fruits		Bananas
	Boat	Rail	Truck	Total	Boat	Rail	Rail	Rail	Rail	Truck	Boat 1/
1931	2,793	948	269	4,010	526	375	2,073	587	1,813	357	1,315
1932	2,360	1,450	169	3,979	444	95	2,353	433	1,161	978	767
1933	2,060	1,426	204	3,690	618	79	1,564	195	1,041	977	652
1934	1,859	1,753	285	3,897	469	220	1,380	277	834	1,035	916
1935	1,443	2,127	266	3,836	259	466	901	365	1,291	970	1,659
1936	821	2,669	236	3,726	213	349	722	389	1,656	11	1,955
1937	511	2,480	432	3,423	244	325	575	354	1,441	7	1,972
1938	427	2,568	447	3,442	221	319	499	188	1,172	684	1,484
1939	433	2,218	840	3,491	65	350	387	330	454	1,669	1,487
1940	333	2,243	865	3,441	62	504	287	448	328	1,873	1,865
1941	247	2,857	1,108	4,212	49	535	233	520	313	2,052	1,587

1/ Exclusive of diversions by rail shipment to other cities.